



THE
BRITISH SECTION
AT THE
VIENNA UNIVERSAL EXHIBITION, 1873.

[FINE ART GALLERIES, INDUSTRIAL, AGRICULTURAL
AND MACHINERY HALLS, AND PARK.]

OFFICIAL
CATALOGUE,
With Plans and Illustrations.

PRINTED AND PUBLISHED FOR THE BRITISH ROYAL COMMISSION
By J. M. JOHNSON & SONS,
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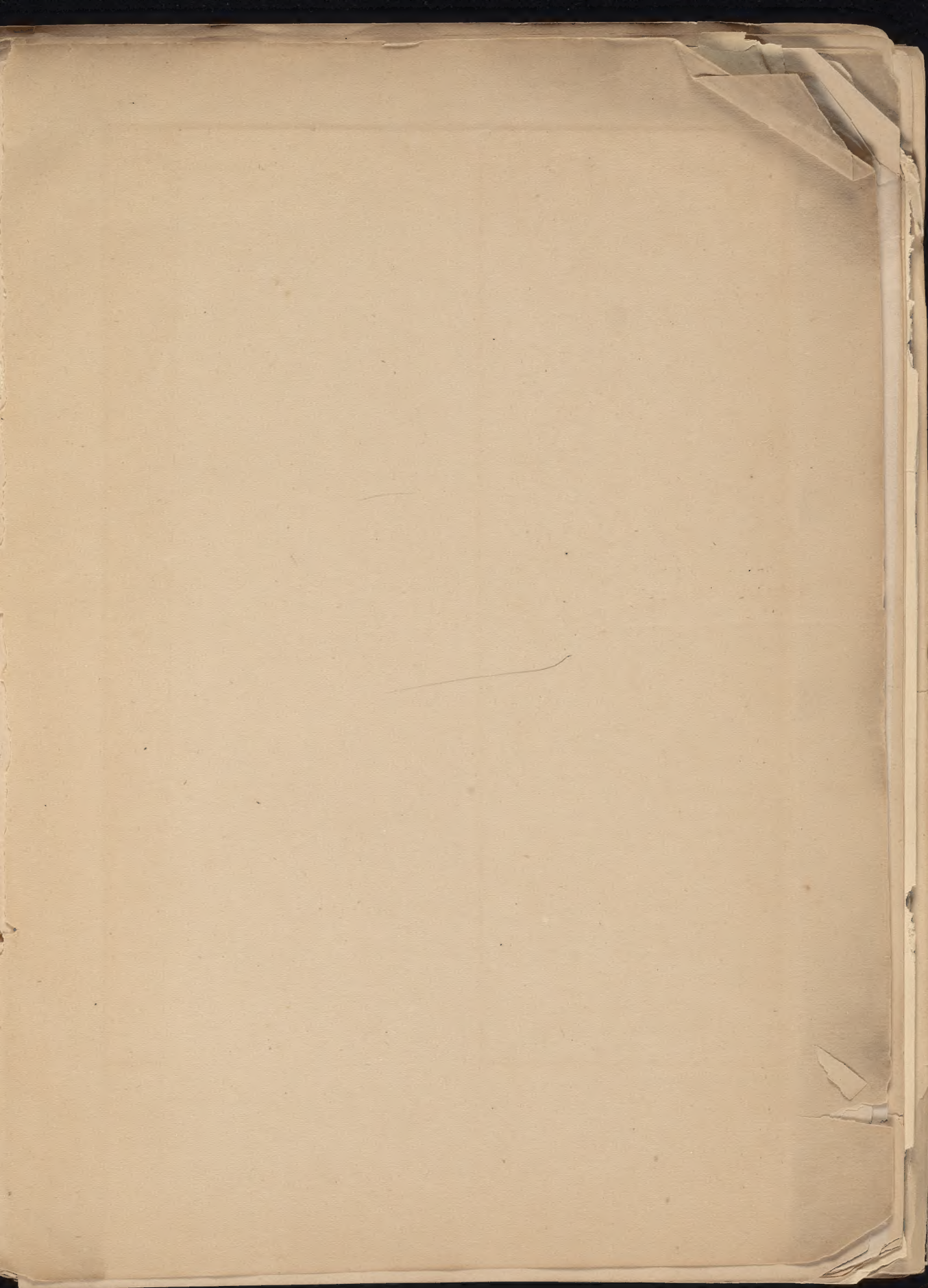
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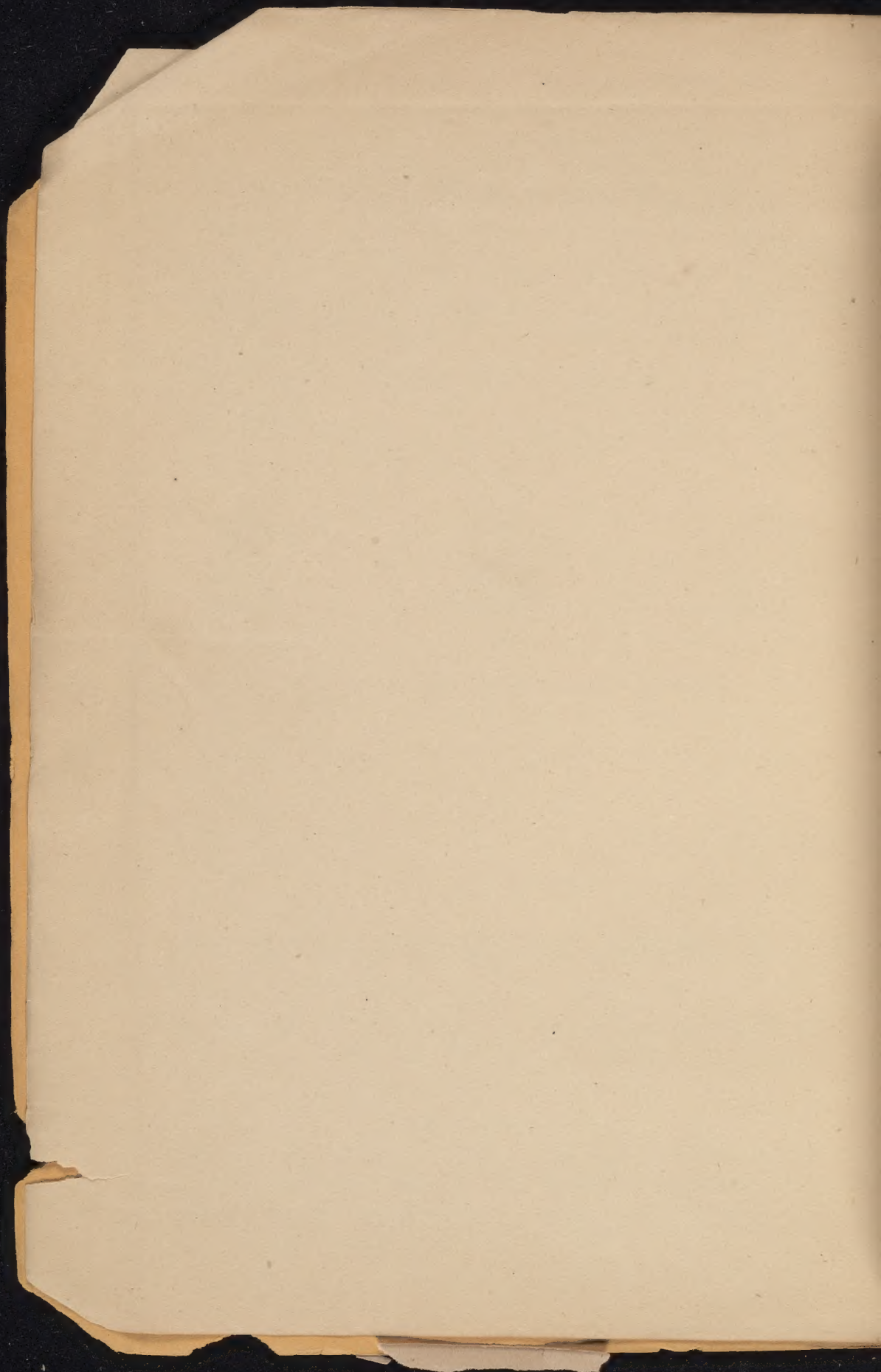
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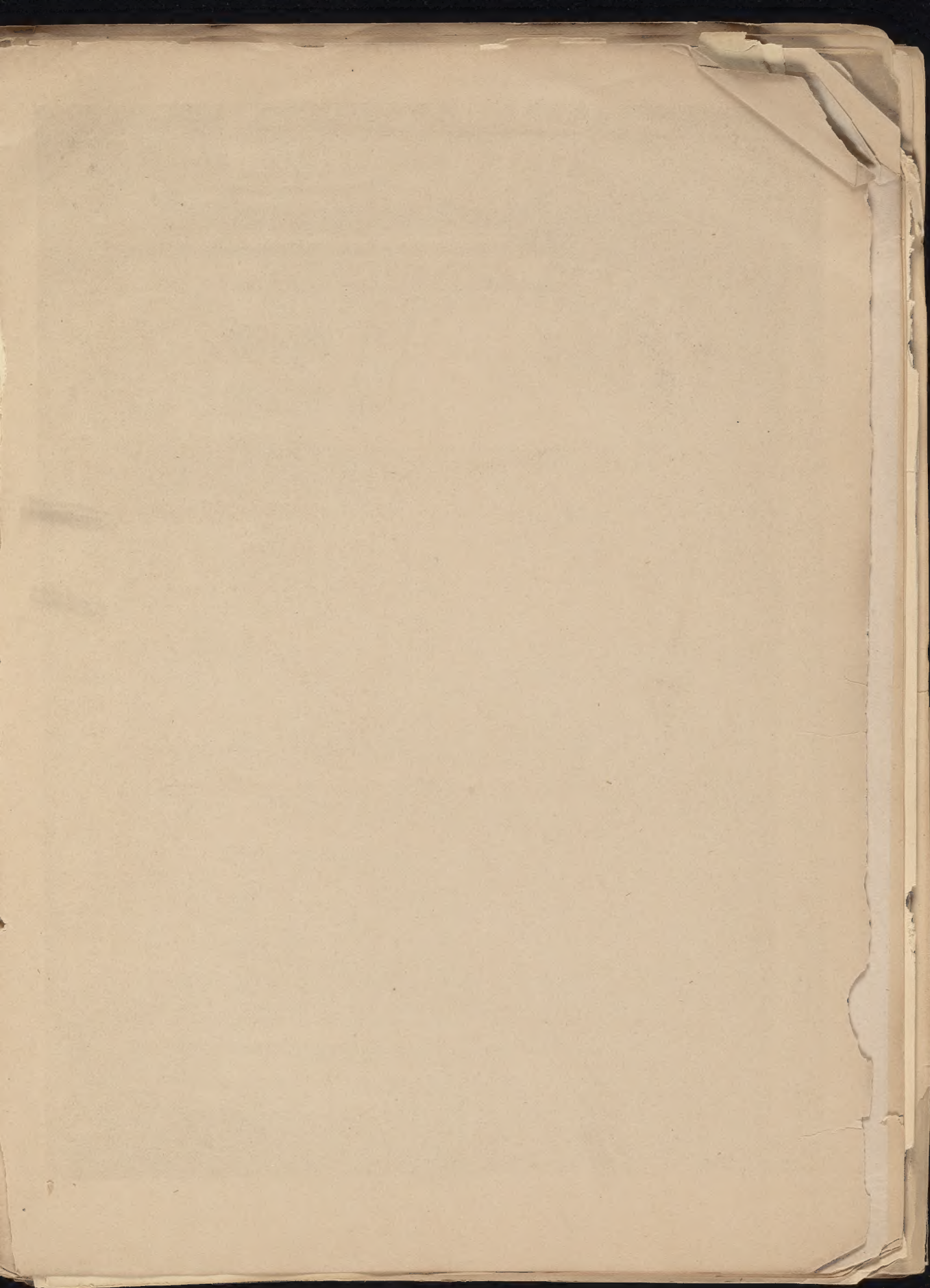
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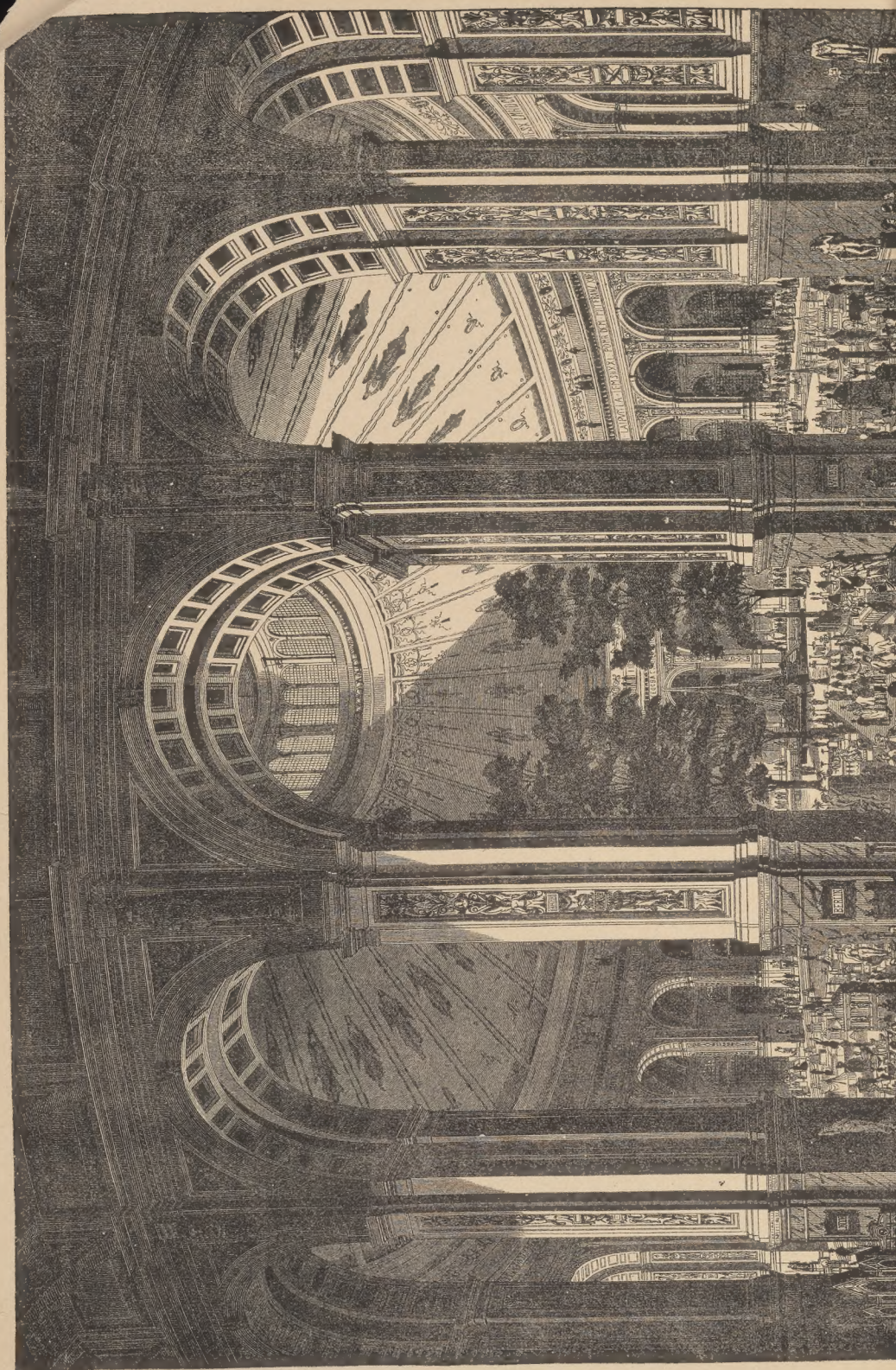
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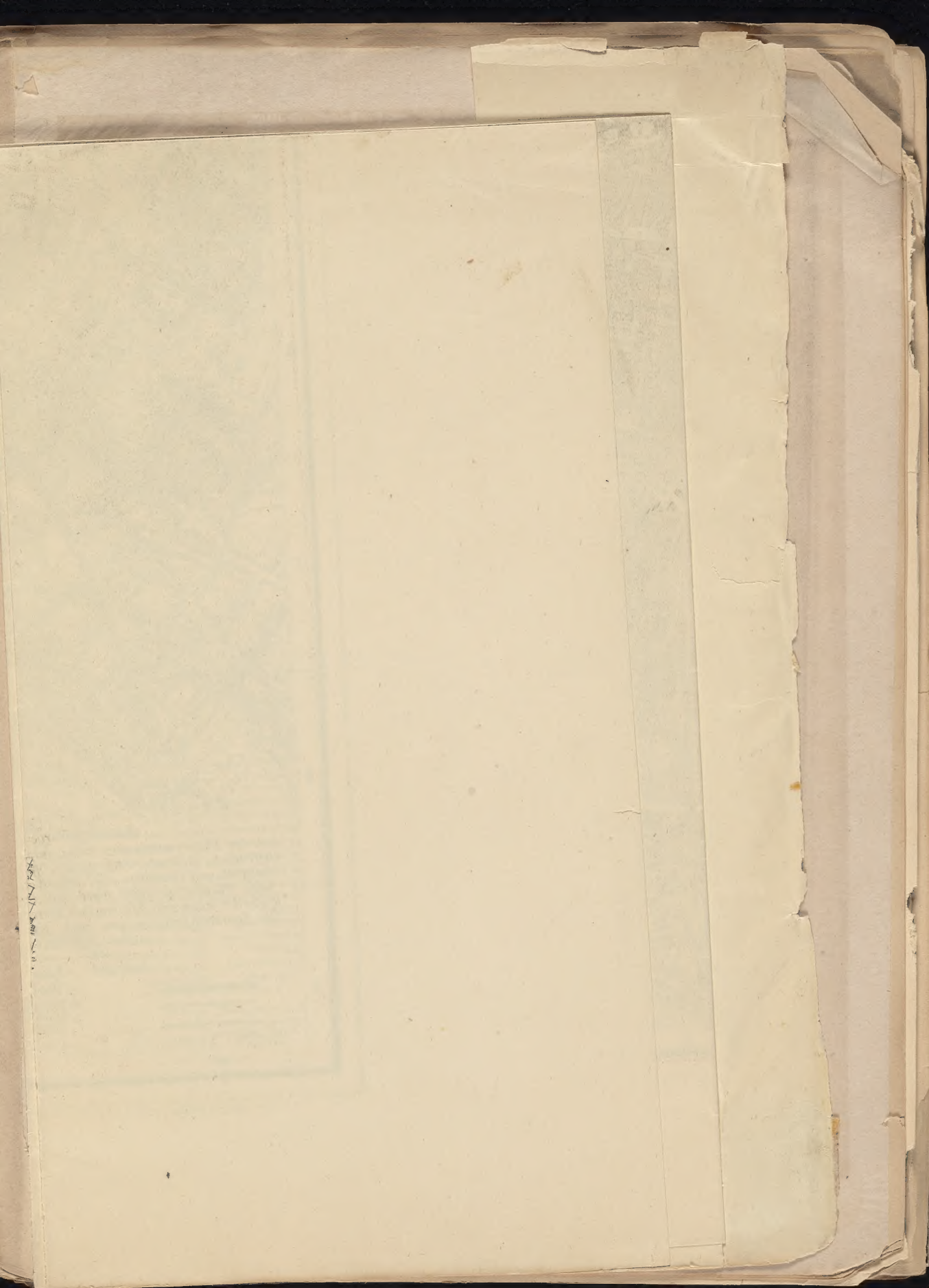
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BRITISH SECTION

VIENNA UNIVERSAL EXHIBITION 1874

THE BRITISH EXHIBITION OF 1874
AT VIENNA

OFFICIAL

CATALOGUE

OF THE BRITISH EXHIBITION

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REGULATIONS

AS TO THE

ADMISSION TO VIENNA UNIVERSAL EXHIBITION, 1873.

I. The Exhibition will be opened on the 1st May, and closed on the 31st October, 1873.

II. The hours of opening and closing the Exhibition each day will be published on the first of each month.

III. The entrances are as follows :—

1. Through the Wurstelprater in the western portal of the Industrial Hall.
2. Through the western portal at the end of the Machinery Hall, on the extremity of the of the Ausstellungsstrasse.
3. Through the southern portal in the principal avenue of the Prater.
4. Through the Rondeau Gate.
5. From the Exhibition Station.

IV. Holders of season and weekly tickets enter the Exhibition by the west and south entrances.

V. No change will be given at the entrances. For the convenience of the public an exchange office is established at each entrance.

VI. Season tickets are not transferable. The holder must sign his ticket and also a register, if required to do so by the proper officer. No compensation will be given for lost season tickets.

VII. Season ticket holders subject themselves by their signatures to the observance of all the provisions of these regulations.

VIII. The office for season tickets, 42, Praterstrasse, will be opened on the 21st April.

IX. A ticket is forfeited if used by anyone but the rightful owner, and such an offence is punishable by the Austrian law.

X. A weekly ticket costs five florins, available for seven consecutive days, seven coupons being attached to it. The holder of such a ticket may use one coupon a day or may exhaust his seven coupons by allowing other persons to use them, provided always that one coupon is equivalent to one visit.

XI. Weekly tickets will be issued on and after the 2nd May. They cannot be used, however, until the 4th May.

XII. A person cannot leave the Exhibition and return thereto without repayment.

XIII. The Prices of admission are as follows:—On Sundays and holidays, fifty kreuzers = 1 shilling; on each of the other six week-days, one florin = 2 shillings. The days of the opening, and of the distribution of prizes are excepted, the entrance price on those days being 25 florins = £2 10s. On the 2nd and 3rd May the entrance price is five florins = 10 shillings; and on the 4th May, two florins = 4 shillings. A season ticket for the whole time of the Exhibition costs 100 florins = £10 for a gentleman, and 50 florins = £5 for a lady. Tickets for ladies are, however, delivered only to those gentlemen who are already supplied with a season ticket.

XIV. Exhibitors' tickets are delivered only according to the general regulations of 27th January, 1873, to an Exhibitor, or to his representative, duly acknowledged as such by the Director General.

XV. Representatives of Exhibitors will only be acknowledged and provided with a ticket on a written application of the Exhibitor, to be addressed to the commission of his country. The Exhibitor will be responsible for any abuse of the ticket held by his representative.

XVI. Non-residents in Vienna, whether Exhibitors or their agents, can only receive admission tickets for the term of their stay in Vienna.

XVII. Each Exhibitor of a collective exhibition is entitled to a ticket of free admission. Firms of two or more members can only claim *one* such ticket.

XVIII. Assistants, actually employed in the Exhibition, will be supplied during the time of their employment, with monthly tickets, at the price of 6 florins = 12 shillings.

XIX. Exhibitors who contribute to temporary exhibitions will receive free tickets available only for the time that such temporary exhibition lasts.

XX. The tickets for the Jury and the Experts of the Jury will be available from the 1st of May to the end of August.

XXI. The President, the Vice-President, the Members of Foreign Commissions, as well as the Representatives of the Press, will receive honorary tickets of admission.

XXII. For the Administrative Officers of Foreign Commissions, the necessary number of tickets will be placed at the disposal of their Commissions. Assistants of foreign countries must, however, pay 6 florins for his monthly ticket, in accordance with Section XVIII.

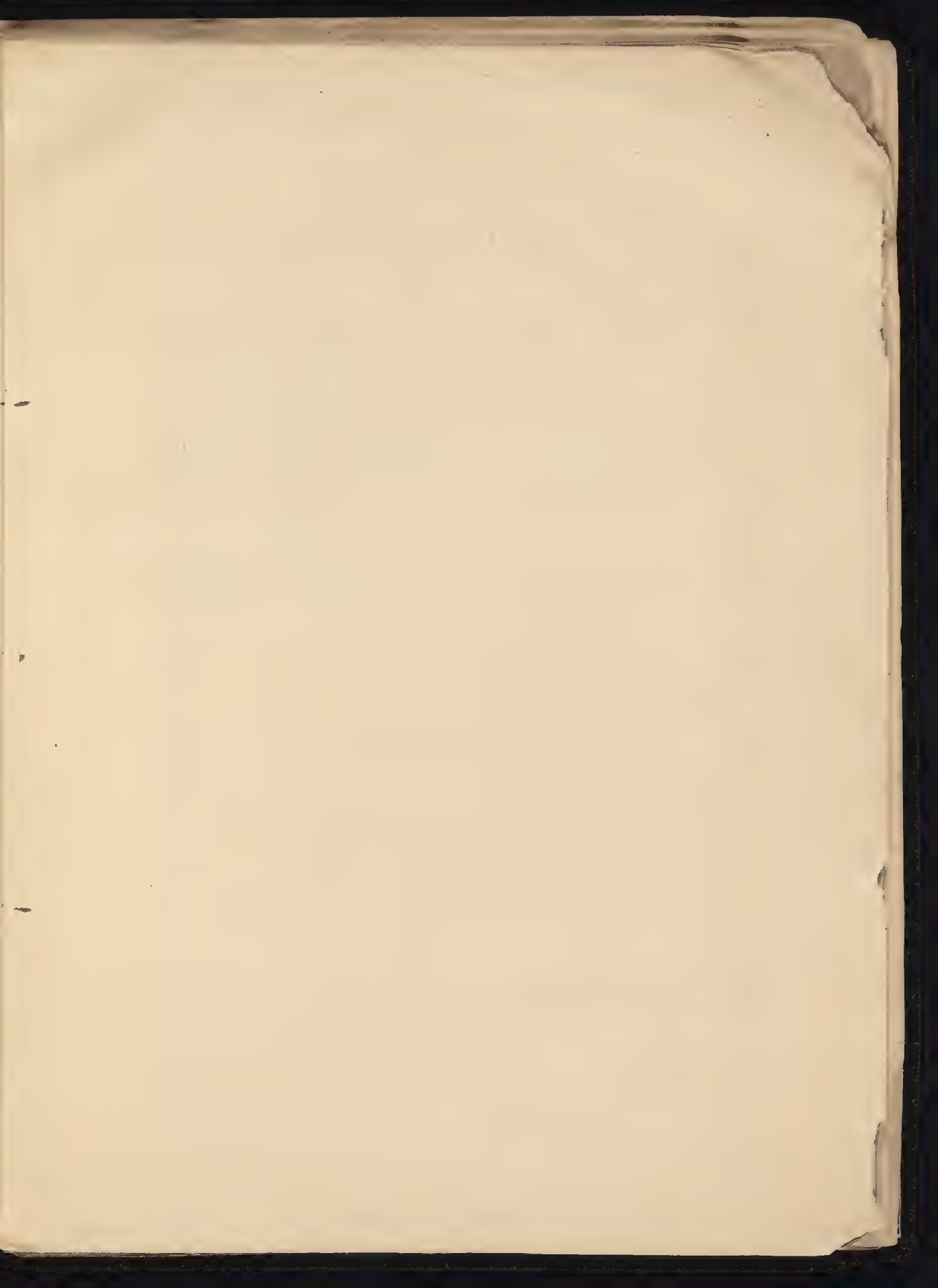
* * * * *

XXIV. All tickets (with the exception of the weekly tickets) will be issued on personal application at the Ticket Office of the General Direction, or to a messenger bearing the written authority of the person in whose name the ticket is to be issued.

The General Manager,

SCHWARZ-SENBORN.

42, Praterstrasse,
Vienna, April, 1873.





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WITH EXHIBITORS' READING ROOM IN THE REAR.



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and Royal Commission Pavilion, Vienna.

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SAUNDERS, A. N., ESQ., 12, *Surrey Terrace, Lewisham High Road, New Cross.*
SAUNDERS, G., ESQ., 12, *Surrey Terrace, Lewisham High Road, New Cross.*
SHARPE, C. W., ESQ., *Bretwell, Burnham, Maidenhead.*
SIMMONS, W. H., ESQ., 247, *Hampstead Road.*
SLOCOMBE, C. P., ESQ., 31, *King Henry's Walk, Islington.*
SLOCOMBE, E., ESQ., 31, *King Henry's Walk, Islington.*
SLOCOMBE, F., ESQ., 31, *King Henry's Walk, Islington.*
STOCKS, LUMB, ESQ., R.A., 9, *Richmond Villa, Seven Sisters' Road, Holloway.*
SWAIN, JOSEPH, ESQ., 6, *Bouverie Street, Whitefriars.*
TOMKINS, C. A., ESQ., 8, *Dover Terrace, Cold Harbour Lane, Camberwell.*
VINTA, J. A., ESQ., 29, *Monmouth Road, Westbourne Grove.*
WARD, G. R., ESQ., 38, *Fitzroy Square.*
WILLMORE, A., ESQ., 4, *Compton Street, Regent Square.*
-

THE BRITISH COMMISSION IS INDEBTED TO THE FOLLOWING FIRMS FOR THE EXHIBITS SPECIFIED BELOW, WHICH HAVE BEEN CONTRIBUTED FOR USE IN THE EXHIBITION. A MORE EXTENDED DESCRIPTION OF THESE LOANS WILL APPEAR IN THE NEXT EDITION OF THE CATALOGUE.

ADAMSON, D., & COMPANY, *Newton Moor Iron Works, Hyde, near Manchester*.—Two Steam Boilers of 30 horse-power each.

APPLEBY, BROTHERS, *Emmerson Street, Southwark, London*.—One Five-Ton Locomotive Steam Crane.

AVELING & PORTER, *Rochester, and 72, Cannon Street, London*.—One Three-ton Steam Crane for roads; one Steam Traction Engine and three Waggons; one Steam Road Roller of $7\frac{1}{2}$ tons.

BARNARD, BISHOP, & BARNARDS, *Norfolk Iron Works, Norwich*.—Iron Gates and Wire Fencing, Ornamental Wrought-Iron Furniture.

BLACKWOOD & SONS, *Edinburgh*.—Books.

BRADFORD, T., & COMPANY, 63, *Fleet Street, London*.—Family Laundry Washing Machines and Drying House.

BROTHERHOOD & HARDINGHAM, 53 and 56, *Compton Street, Goswell Road, London*.—One Steam Donkey Pump.

BROWN BROTHERS & COMPANY, *Rosebank Iron Works, Edinburgh*.—One Steam Donkey Pump.

BURNEY & COMPANY, *Millwall Docks, London*.—Iron Tanks for Water Service.

CATER & WALKER, *Grove Steam Boiler Works, Southwark, London*.—One Steam Boiler of 50 horse-power.

CLARK & COMPANY, *Rathbone Place, Oxford Street, London*.—Revolving Shutters for Windows of Royal Commission Offices.

COALBROOKDALE COMPANY, *Coalbrookdale*.—Ornamental Railings, Iron Gates, Fencing, &c.; Jardinières, Seats, &c.

COOKE, SONS, & LAW, 12, *Friday Street, London*.—Mats in British Section of Industrial Palace, Agricultural Hall and Machinery Hall, and Matting for the Office of the Royal Commission and Fine Art Galleries.

COOKE, T., & SONS, *Buckingham Works, York*.—Clocks for Machinery Hall, and Workmens' Houses.

COOPER & HOLT, 48, 49, 50, *Bunhill Row, London*.—Furniture for Offices of the Royal British Commission.

COPESTAKE, MOORE, CRAMPTON, & COMPANY, *Bow Churchyard, London*.—Muslin Curtains for Decorations.

DAVIS, JOSEPH, & COMPANY, 92, *Crampton Street, Newington Butts, London*.—Barometer for the Offices of the Royal Commission.

DENNIS, W., & COMPANY, 19, *Holborn, London*.—Patent Pneumatic Fire Extinguishers, and Garden Irrigators.

DERHAM, JOHN J., *Blackburn*.—Two Steam Engines of 20 horse-power each.

EDGINGTON, JOHN, & COMPANY, 48, *Long Lane, Smithfield, London*.—Marquee and Tents.

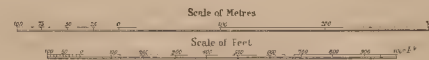
ELKINGTON & COMPANY, *New Hall Street, Birmingham*.—Art Bronzes, &c., for the Royal Commission Offices.

- FEETHAM, M., & COMPANY, 9, *Clifford Street, London*.—Aldershot Military Ornamental Fire Grates for Offices of the Royal British Commission.
- FOX, J. CAVEN, *Royal Horticultural Gardens, South Kensington, London*.—Rustic Summer House; Stoves and Grill for Workmens' Houses
- GALLOWAY, W. & J., & SONS, *Knott Mill Iron Works, Manchester*.—Two Steam Boilers of 30 horse-power each; One Steam Engine of 30 horse-power.
- HEMMING, S. C., & COMPANY, 25, *Moorgate Street, London*.—Galvanized Iron Houses.
- HILL & SMITH, *Brierly Hill Iron Works, Brierly Hill, Staffordshire*.—Ornamental Iron Railings and Gates for one of the Open Courts, and Wire Fencing for Workmen's Houses.
- HOBBS, HART & COMPANY, 76, *Cheapside, London*.—Iron Safes.
- HOWARD, J. & F., *Britannia Works, Bedford*.—One Safety Steam Boiler of 30 horse-power.
- HUDSPITH, W., *South Tyne Works, Haltwhistle, Northumberland*.—Jardinières, &c.
- JACKSON & GRAHAM, 29 to 38, *Oxford Street London*.—Furniture and Decorations for the Hall and Office of Her Majesty's Commissioners.
- JACOBY, MORITZ, & COMPANY, *Stoney Street, Nottingham*.—Muslin Curtains for Decoration of British Section.
- JENNINGS, G., & COMPANY, *Lambeth, London*.—Sanitary Arrangements, Lavatories, &c., for Offices and Workmen's Houses.
- KENT, G., 199, 200, 201, *High Holborn, London*.—Kitchen Utensils for Workmen's Cottages. Stoves and Grill for Workmen's Houses.
- KENT, G. B., & COMPANY, 11, *Great Marlborough Street, London*.—Brushes and Combs.
- LAURENCE, W., & COMPANY, 14, *St. Mary Axe, London*.—Refrigerators, Water Purifiers, &c.
- LEWIS, JOHN, *India Buildings, Halifax*.—Carpets for the Offices of the Royal Commission.
- LLOYD, EDWIN, *Horticultural Works, Grantham*.—Conservatory.
- MERRYWEATHER & SONS, 63, *Long Acre, London*.—One Steam and one Manual Fire Engine
- MINTON, HOLLINS, & COMPANY, *Stoke-upon-Trent*.—Encaustic Paving Tiles for Verandah of Royal Commissioners' House.
- MINTON & COMPANY, *Stoke-upon-Trent*.—Jardinières, Garden Seats, &c.
- MILNER, T., & SON, *Phoenix Works, Liverpool*.—Iron Safes.
- PAVY'S PATENT FELTED FABRIC COMPANY, *Portford Mills, Chilworth, Surrey*.—Paper Curtains for Decorations and Paper Hangings for Reading and Public Room in Royal Commissioners' Offices.
- PATENT IMPROVED FIRE EXTINGUISHER COMPANY, 19, *Holborn, London*.—Smith and Langley's Patent Steam Sentinel.
- PATENT GAS COMPANY (LIMITED), 25, *Fenchurch Street, London*.—Gas-making Apparatus and Fittings.
- PERKINS, B., & SONS, 141, *Cannon Street, London*.—Gas Bath and Fittings.
- PILLISCHER, M., 88, *New Bond Street, London*.—Reading and other Lamps; and Barometers.
- POWIS, CHARLES, & COMPANY, *Cyclops Works, Millwall Pier, London*.—One 3-ton Locomotive Steam Crane; one 20 horse-power Steam Engine.
- PRICE'S PATENT CANDLE COMPANY (LIMITED), *Belmont Works, Battersea, London*.—Candles and Soap.
- READING IRON WORKS COMPANY (LIMITED), *Reading, Berkshire*.—One 20 horse-power Steam Engine.
- SHAND, MASON, & COMPANY, 75, *Upper Ground Street, Blackfriars, London*.—One Steam and one Manual Fire Engine.

- SHARP, STEWART, & COMPANY, *Atlas Works, Manchester*.—One Steam Donkey Pump (Injector).
- SILICATED CARBON FILTER COMPANY, *Church Road, Battersea, London*.—Filters.
- SIMON, MAY, & COMPANY, *Nottingham*.—Muslin Curtains for Decorations.
- SIMPSON, W. B. & SONS, 445, *West Strand, London*.—Art Tile Chimney Piece for Her Majesty's Commissioners' Office.
- SPICE, R. P., C.E., 21, *Parliament Street, Westminster, London*.—Gas making Apparatus and Fittings.
- SUTTON & SONS, *Reading, Berkshire*.—Flower and Vegetable Seeds for beds near British Offices and Workmens' Gardens.
- TALL & COMPANY (LIMITED), 8, *Lawson Street, Great Dover Street, London*.—Labourers' Cottage in concrete.
- TANGYE, BROTHERS, & HOLMAN, 10, *Laurence Pountney Lane, London*.—Hydraulic Lifting Jacks, &c.
- TEMPLETON, JAS., & COMPANY, *Glasgow*.—Curtains for Decorations of Industrial Buildings.
- TYLER, HAYWARD, & COMPANY, *Upper Whitecross Street, London*.—One Steam Fire Engine and one Steam Donkey Pump.
- UNITE, J., 291, *Edgware Road, London*.—Tents, Marquees, &c.
- WARNER, JOHN, & SONS, 8, *Crescent, Cripplegate, London*.—One Hand Watering Cart, and Garden Engines.
- WINFIELD, R. W., & COMPANY, *Cambridge Street Works, Birmingham*.—Gas Apparatus and Ornamental Fittings for Offices of Royal British Commission and Workmen's Houses.
- WOODBURY PERMANENT PRINTING PROCESS COMPANY, 9A, *Hereford Square, Brompton*.—Frames of Photographs for British Workmen's Houses.

VIENNA UNIVERSAL EXHIBITION. 1873.

GROUND PLAN.



SHARP STEWAR

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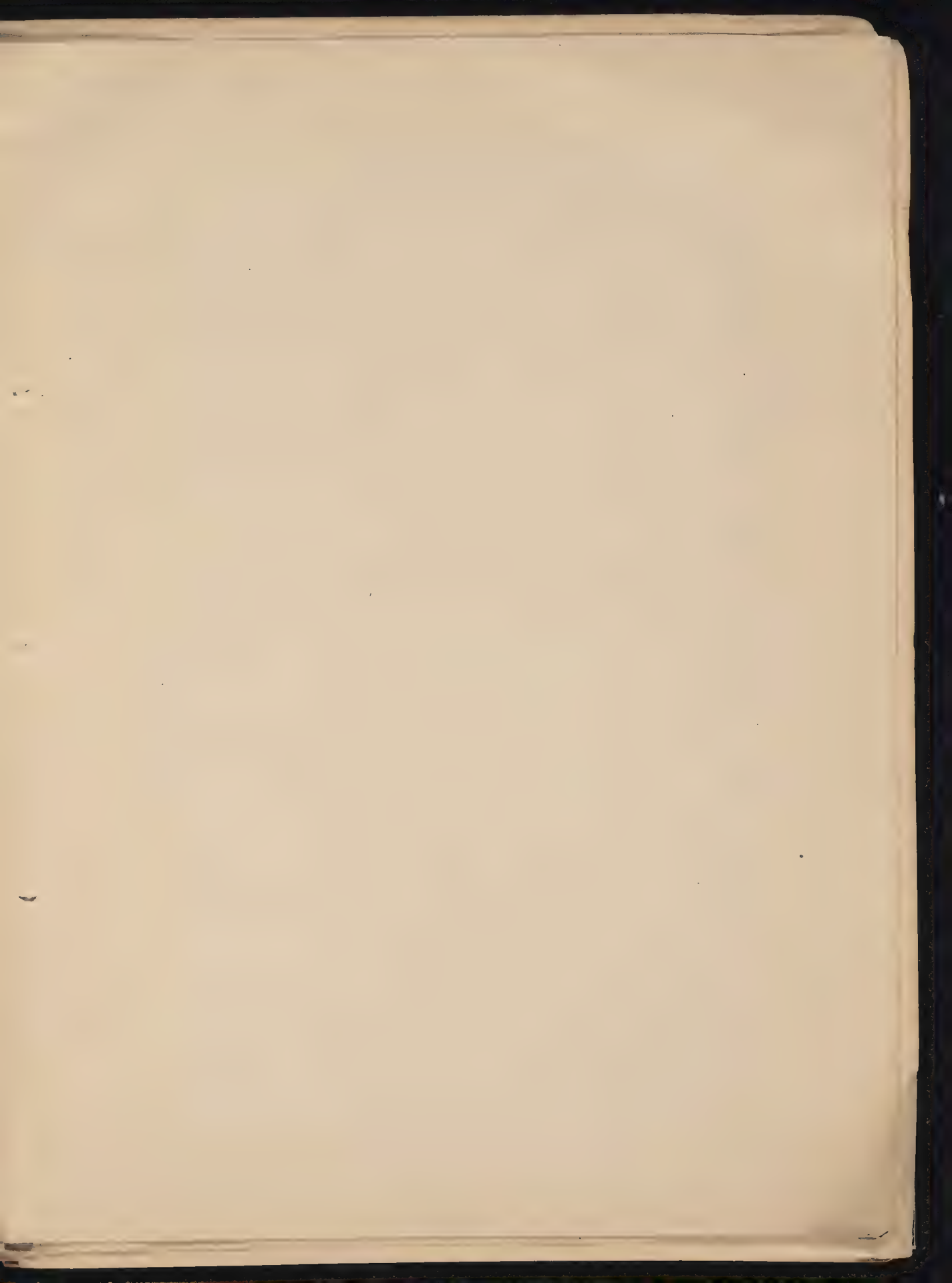
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The reverse of all

PRIZE MEDALS TO BE AWARDED AT THE VIENNA UNIVERSAL EXHIBITION.

ACCORDING to the General Programme of the Exhibition, there will be five different kinds of Medals awarded as Prizes by the International Jury, namely—

1. MEDAL FOR FINE ARTS;
2. MEDAL FOR GOOD TASTE;
3. MEDAL FOR PROGRESS;
4. MEDAL FOR CO-OPERATORS;
5. MEDAL FOR MERIT.

The Medals will all be of the same size, each seven centimeters in diameter. They will all be in bronze, and will bear on the obverse the portrait of His Majesty the Emperor, with the inscription, in German:

“FRANZ JOSEPH I., KAISER VON OESTERREICH, KOENIG VON BOEHMEN, ETC., APOST. KOENIG VON UNGARN.”

(Francis Joseph I., Emperor of Austria, King of Bohemia, &c., Apostolic King of Hungary).

The reverse side of all five medals will be adorned with artistic emblems, the design of which has been left to the respective artists.

These emblems on the reverse side of the Medals will bear the following inscriptions:

1. On the Medal for Fine Arts—“Weltausstellung, 1873, Wien. Für Kunst.” (*Universal Exhibition, 1873, Vienna. For Fine Art.*)
2. On the Medal for Good Taste—“Weltausstellung, 1873, Wien. Für guten Geschmack.” (*Universal Exhibition, 1873, Vienna. For Good Taste.*)
3. On the Medal for Progress—“Weltausstellung, 1873, Wien. Dem Fortschritte.” (*Universal Exhibition, 1873, Vienna. For Progress.*)
4. On the Medal for Co-operators—“Weltausstellung, 1873, Wien. Dem Mitarbeiter.” (*Universal Exhibition, 1873, Vienna. To the Co-operator.*)
5. On the Medal for Merit—“Weltausstellung, 1873, Wien. Dem Verdienste.” (*Universal Exhibition, 1873, Vienna. For Merit.*)

The Medal for *Fine Arts* is reserved for distinguished art productions exhibited in Group XXV. It represents on the reverse side the Goddess of the capital of Vienna, with the mason's crown, by her side the genius, on whose lap rests a cushion with wreaths, and surrounded by the representatives of sculpture, architecture, and painting, whom she crowns with laurel wreaths.

The Medal for *Good Taste* is designed for Exhibitors of Articles of Industry, the form and colour of which constitute the characteristic features for adjudication. It shows on the reverse side three Greek female figures (Muses and Graces), surrounded by elegant objects of Art and Artistic Industry, which they are admiring.

The Medal for *Progress* is intended for Exhibitors in Groups I. to XXIII., and in Group XXVI., who, compared with the productions exhibited at previous Exhibitions, can prove noticeable progress made since then in new inventions, in the introduction of new materials and contrivances, &c. It represents a serious figure followed by immortality passing the Goddess of the country, who sends a genius with a laurel wreath to meet her.

The Medal for *Co-operators* is designated for such persons who, as managers of manufactories, as foremen, designers of patterns, modellers, or as assistants in a general way, are nominated on the part of the Exhibitors, on account of the leading part they have taken in the features of excellence of the productions, or in the increase of their sale. It shows on the reverse side a mechanic examining the parts of a machine, which his aspiring assistant has just finished, and for the completion of which, as an acknowledgment, the genius of labour presents him with a laurel wreath.

The Medal of *Merit* will be awarded to Exhibitors who can lay claim to excellence and perfection in material and workmanship, large extent of production, the opening of new markets, the employment of improved tools and machinery, and cheapness of produce. It shows on its reverse side the reward for labour and domestic industry.

KEY TO PRECEDING MAP.

LIST OF BUILDINGS IN THE EXHIBITION GROUNDS.

BEHIND THE MACHINERY HALL.

1. Bakery of Carl Heilfinger.
2. Machine Building.
3. Waiting Rooms.
4. American Boiler House.
5. English Workmen's Dwellings.
6. English Boiler House.
7. English Gas Factory.
8. Pavilion of Belgian Commission.
9. French Boiler House.
10. Machinery Workshops.
11. Swiss Boiler House.
12. Cloak Rooms.
13. Belgian Boiler House.
14. Pavilion of the Trade of the World.
15. German Boiler House.
16. German Empire Pavilion (Pavilion for Brickmaking and Ice Factory).
17. Waiting Rooms.
18. Austrian Boiler House.
19. Northern Railway Pavilion.
20. North Western Railway Pavilion.
21. Machinery Building.
22. Mr. Ringhoffer's Pavilions of Prague.

ON THE OTHER SIDE OF THE HEUSTADL WATERS.

1. Entrance.
2. Kriau (*Sacher's Restaurant*).
3. Collective Exhibition of the Styrian proprietors of forests.
4. Shareholder's Company for Forest Industry.
- 4a. Shareholder's Company "Agricola" (Farming).
5. Russian Peasant's Hut.
6. Machinery Building.
7. Swedish Peasant's Hut.
8. Pavilion of Hungarian Forest produce.
9. Cracow Peasant's Hut.
10. *Von Ganahl's* Farm-house in Feldkirchen.
11. Hungarian Peasants' Huts:—
 - a. Hungarian.
 - b. Saxon.
 - c. Geydelerhouse.
 - d. Roumanian.
 - e. Geydelerhouse.
 - f. Soldier's Houses of the Military Frontier.
12. Baron Pittel's Stable.
13. Cloak Room.
14. Borkowsky, Labourer's Cottage.
15. *Chevalier de Mladecky's* Farm House.
16. *Walne*, and Alpine Hut.
17. Farm of the Agricultural Society in Vienna.
18. Horse and Cattle Show.
19. Vienna Photographers' Association.
20. Military Building Yard.
21. Military Barracks.

BETWEEN THE MACHINERY HALL AND THE INDUSTRIAL HALL.

1. Western Entrance.
2. American Restaurant.
3. Court Bakery of *Roman Uhl*.
4. *Cook's* Tourists' Pavilion.
5. Seed Pavilion, *see Trophy*.
6. Watertower.
7. English Commissioner's House.
8. Western Agricultural Hall (including Great Britain).
9. Cloak Room.
10. Swedish Restaurant (*Café Blanche*).
11. Norwegian Fishery.
12. Lapland Hut (*Laplatta*).
13. Swedish Fishery.
14. Norwegian Garden Pavilion (*Jacobsen & Haneburg*).
15. German School House.
16. Gorman Empire (Mining Industry).
17. *Dreher's* Beer-Tasting Hall.
18. *The Duke of Saxe-Coburg-Gotha's* Pavilion.
19. Prince *F. Adolphus Schwarzberg's* Pavilion.
20. Pavilion *Mauthner* (Son).
21. *Jacob Mung & Company* (Pavilion).
22. *Hagen's* Stable.
23. *Curti*, Cement Obelisk.
- 24a. *Chailly* House of Artificial Stone.

24. Industrial Society of Prague, formerly *Danck*.
25. Vordernberg-Koflach Mining Industry Company.
26. Board of the Innerberg Shareholders' Company (Mining Industry)..
27. Shareholder's Brewery, *Silberech* (Bar).
28. Carinthian Mining Industry Society (*Huttenberger*).
29. Mr. Bosch's Pavilion.
30. *Vincent Wenzel's* Pavilion for Fireproof Roofing.
31. Pavilion, *Steffen's* (Machine).
32. Witkowitz Railway Bridge.
33. Baron de *Rothschild's* Pavilion.
- 33a. *Lederer & Nesenyi*.
34. *English Restaurant*.
35. Pavilion of the Shareholders' Company for the construction of Bridges and Roads.
36. *John Schubert's* Pavilion.
37. *Steinor*, Tyrolese Cottage.
38. Imperial and Royal State Railway.
39. Pavilion for the Representation of the History of Inventions in Women's Work.
40. Agricultural Ministry.
41. Cloak Room.
42. Alsatian Farm-house.
43. Danubian Steam Navigation Company.
44. Wine-Testing Hall.
45. Eastern Agricultural Hall.
46. Cloak Room.

BEFORE THE INDUSTRIAL PALACE.

1. American Restaurant of *Mr. Kune*.
2. Private Brewery of Pilsen.
3. Shareholders' Brewery of Pilsen.
4. Hungarian Shepherd's Cottage.
5. American Kiosk.
6. New Free Press.
7. Liesing Beer Saloon.
8. Rosshard's Swiss Bar.
9. Swiss Music Hall.
10. Cloak Room.
11. Boiler House.
12. French Restaurant.
13. Sodawater Pavilion.
14. Prince of Monaco's Pavilion.
15. Swedish Hunting Box.
16. Swedish Army Exhibition.
17. Swedish School House.
18. Pavilion of the Domain Finspong.
19. Mining Products.
20. Monument of *Wasserburger*.
21. Martin Kien, Portable Dwelling House.
22. Kiosk of the Southern Railway.
23. *Chevalier de Stark's* Pavilion.
24. Pavilion of the Savings Bank.
25. Infants' Pavilion.
26. Pavilion for Metal Industry.
27. Austrian Medicinal Springs.
28. Trade in Specialities.
29. Russian Pavilion of *Mr. Sidorof*.
30. Russian Pavilion of *M. Reimers*.
31. Russian Dwelling-house.
32. Russian Restaurant of *Mr. Engel*.
33. Charles Hochstetter—Products of the Perlmoser Cement Manufactory, Limited.
34. Waiting Rooms.
35. French Restaurant of *M. Goyard*.
36. Italian Restaurant.
37. Italian Wine Saloon.
38. Styrian Wine Saloon.
39. American Tent (Bech and Dommat).
40. Music Hall.
41. Austrian Lloyd's.
42. Egyptian Buildings.
43. Waagner Glasshouse.
44. Oriental Clubhouse of *Dr. Hardt*.
45. Lighthouse of the Maritime Board.
46. Turkish Buildings.
47. Persian Villa.
48. Restaurant of *Mr. Arnstein* of Trieste.

*SPACE IN SQUARE METRES ALLOTTED TO EACH COUNTRY IN THE
INDUSTRIAL, MACHINERY, AND AGRICULTURAL HALLS.*

	INDUSTRIAL HALL.	ADJOINING COURTS. Covered. Open.	MACHINERY HALL.	AGRICULTURAL HALL.
AUSTRIA	14,767 .....	....	11,000	
GERMANY	6,714 .....	....	10,000	
FRANCE	6,308 .....	....	5,580	2,500
ENGLAND	6,369 .....	....	5,305	4,500
RUSSIA	3,319 .....	....	1,250	
HUNGARY	2,972 .....	....	350	
ITALY	2,972 .....	....	950	950
TURKEY	2,938 .....	....	.....
BELGIUM	2,613 .....	....	3,000	356
CHINA, SIAM, & JAPAN	1,350 .....	....	.....
UNITED STATES OF } AMERICA	1,358 .....	....	1,250	115
SWITZERLAND	1,125 .....	....	3,049	475
SOUTH AMERICA ..	1,090 .....	....	.....
EGYPT & MID-AFRICA	1,003 ..	....	.....
HOLLAND	880 .....	....	240	
GREECE	867 .....	....	.....
SWEDEN & NORWAY	865 .....	....	280	250
ROUMANIA	657 .....	....	.....
SPAIN	605 .....	....	.....	640
PORTUGAL	519 .....	....	.....	350
PERSIA & MID-ASIA	346 .....	....	.....
TUNIS	259 .....	....	.....
MOROCCO	86 .....	....	.....
DENMARK .....	.....	....	300	170

AUSTRIAN CLASSIFICATION.

GROUP I.

MINING, QUARRYING, AND METALLURGY.

Preliminary Arrangement.

Mineral fuels (coals, shales, and mineral oils).
 Mineral ores and metals.
 Other minerals (as salt, sulphur, graphite, &c.); not including building materials; *vide* group 18.
 Natural alloys.
 Drawings and models of objects relating to mining, metallurgy, and mineral industry, mining engineering, surveying, and map making.
 Geological works, and geological maps, &c.
 Tools and inventions for mining and metallurgy for underground and surface work.
 Statistics of production.

Groups and Sections for the Juries.

1st Section. Mining.
 2nd Section. Iron Works.
 3rd Section. Other kinds of Metallurgy.

GROUP II.

AGRICULTURE, HORTICULTURE, AND FORESTRY.

Preliminary Arrangement.

Plants for food and physic (excluding fresh fruits and vegetables, which are to be the subjects of temporary exhibitions).
 Tobacco and other narcotic plants.
 Vegetable fibre (as cotton, flax, hemp, jute, china grass, &c.); and other plants of commerce in their raw state.
 Cocoons of silk worms.
 Animal products in a raw state (skins, hides, feathers, bristles, &c.).
 Wool.
 Products of forestry (timber, wood for cabinet work, tanning substances, resin in a raw state, dyeing woods, barks, charcoal tinder).
 Peat and its products.
 Manures.
 Drawings and models of objects used in agriculture, horticulture, and forestry; farm maps.
 Works of the experimental stations, woodland and forest doom books, statics of forests, &c.
 Processes and inventions for producing, transporting, and storing the above-mentioned products.
 Plans of gardens, drawings, and models of horticultural implements, hot-houses, conservatories, irrigation, &c.
 New methods of horticultural cultivation.
 Statistics of production.

Vide Temporary Exhibitions, No. 4).

Groups and Sections for the Juries.

1st Section. Agriculture.
 2nd Section. Animal Products.
 3rd Section. Forestry.
 4th Section. Cultivation of the Vine, Fruit, Vegetables, and Horticulture.

GROUP III.

CHEMICAL INDUSTRY.

Preliminary Arrangement.

Chemical products for technical and pharmaceutical purposes (acids, salts, chemical preparations of all sorts).
 Raw substances and products of pharmacy, mineral waters, &c.
 Fats and their products (stearine, oil, acids, glycerine, soaps, candles, and tapers, &c.).
 Products of dry distillation (as refined petroleum, slate oil, paraffine, phenylic acid, benzoine, anilin, &c.).
 Etheral oils and perfumeries.
 Matches, &c.
 Dye-stuffs, mineral and organic.
 Resins (washed, dyed, or bleached) sealing-wax, varnish, albumen, isinglass, glue, starches, dextrine, &c.
 Contrivances and processes used in chemical production.
 Statistics of production.

Groups and Sections for the Furies.

1st Section. Chemical Products for Technical Purposes.
 2nd Section. Pharmaceutical Preparations; Etheral Oils; Perfumeries; Drugs and other Raw Products for Pharmacy and Chemical Industry.
 3rd Section. Fat Industry.
 4th Section. Products of Dry Distillation.
 5th Section. Explosive Materials; Dry Stuffs; Varnishes and other Products of Chemical Industry.

GROUP IV.

SUBSTANCES OF FOOD AS PRODUCTS OF INDUSTRY.

Preliminary Arrangement.

Flour and other farinaceous products, malt and its products.
 Sugar and its products.
 Spirits and spirituous liquors, &c.
 Wines.
 Ale, beer, porter, &c.
 Vinegars.
 Preserves and extracts (extracts of meat, portable soups, condensed milk, Erbswurst preserved vegetables, preserved meat, &c.).
 Tobacco, and similar manufactures.
 Confectionery, ginger-bread, chocolate, coffee substitutes, &c.
 Processes and inventions for preparing all these articles.
 Statistics of production.

Groups and Sections for the Furies.

1st Section. Flour and other Farinaceous Products
 2nd Section. Sugar, Confectionery, and Chocolate.
 3rd Section. Wine and its Substitutes; Beer and other Fermented Liquors and Vinegar.
 4th Section. Preserves, Extracts and Meats.
 5th Section. Tobacco Manufactures.

GROUP V.

TEXTILE INDUSTRY AND CLOTHING.

Preliminary Arrangement.

Washed wool and hair used for textile fabrics, carded wool and worsted, combed wool and woollen fabrics, felt carpets, blankets, hair tissues, mixed fabrics, including shawls.
 Cotton, cotton substitutes, cotton thread, cotton fabrics, and cords.
 Flax, hemp, jute, and other fibres, yarns, threads, and fabrics of the same straw, fabrics for bonnets, screens, and mats, webs and cords of reed, cane, bass, hair, wire, &c.

Groups and Sections for the Furies.

1st Section. Woollen Fabrics.
 2nd Section. Cotton Fabrics.
 3rd Section. Linen Fabrics.
 4th Section. Silk Fabrics.
 5th Section. Fringe Work; Gold and Silver Webs; Lace and Loose Woven Fabrics; Embroideries; Ornamental Feathers and Artificial Flowers made of various kinds of Stuffs—Paper, Leather, &c.
 6th Section. Linen; Articles of Clothing, Fur, Hats and Bonnets, Gloves.

GROUP V—*continued.**Preliminary Arrangement.*

Raw silk, spun silk, and manufactures of silk, silk wastes.
 Small ware manufacturers, gold and silver cloths, and embroideries.
 Lace.
 Hosiery, milled and unmilled.
 Finished objects of clothing (clothes, gowns, hats, bonnets, shoes and boots, gloves, and linen &c.)
 Upholstery, carpeting, curtains, bed-furniture, &c.
 Artificial flowers and feather ornaments.
 Processes and inventions used in the production of these manufactures.
 Statistics of production.

Groups and Sections for the Furies.

7th Section. Shoe and Bootmakers' Articles.
 8th Section. Upholstery.

GROUP VI.

LEATHER AND INDIA-RUBBER INDUSTRY.

Preliminary Arrangement.

Leather, articles of leather, harness, saddles, trunks, and other leather goods (excluding clothing and fancy goods); parchment and goldbeater skin.
 Skins and furs.
 India-rubber and gutta percha articles (excluding philosophical and mechanical instruments, and parts of machinery), water-proof stuffs and cloths.
 Processes and inventions used in the production of these manufactures.
 Statistics of production.

Groups and Sections for the Furies.

1st Section. Leather and Rough Skins.
 2nd Section. Leather Wares.
 3rd Section. India-rubber and Gutta Percha Wares.

GROUP VII.

METAL INDUSTRY.

Preliminary Arrangement.

Goldsmiths' and Silversmiths' work, and jewellery, &c.
 Iron and steel wares (excluding machinery, building materials, philosophical and musical instruments.
 Manufactures from other metals and alloys.
 Weapons of every description, except military arms.
 Processes and inventions used in the production of these manufactures.
 Statistics of production.

Groups and Sections for the Furies.

1st Section. Gold and Silver Wares and Jewellery.
 2nd Section. Iron and Steel Wares.
 3rd Section. Arms, with the exception of War Armature.
 4th Section. Other kinds of Metal Wares.

GROUP VIII.

WOOD INDUSTRY.

Preliminary Arrangement.

Cabinet work (inlaid floors, windows, doors, &c.).
 Joiners' work.
 Cleft woodwork (casks, shingles, sieves, &c.).
 Small staves and their products, matches, &c.
 Veneers and marquetry.
 Cut and turned wood.
 Chisel work and carved work.
 Cork manufactures.
 Basket work.
 Woodwork painted, stained and gilt.
 Processes and inventions used in the production of these manufactures.
 Statistics of manufacture.

Groups and Sections for the Furies.

1st. Section. Carpenters' and Cabinet Work; Veneers; Cut, Turned, Chisel and Carved Work;
 2nd Section. Productions of Cleft Woodwork; Cork Manufactures and Basket Wickerwork.
 3rd Section. Coloured, Painted, Stained, and Gilded Woodwork.

GROUP IX.

STONE, EARTHENWARE, AND GLASS INDUSTRY.

Preliminary Arrangement.

Stones, natural and artificial; slate and cement works, natural and imitated stones and marbles, paving stones and floor tiles, ornaments and decorations, pipes, grinding stones, &c.
 Earthenware, pipes, cooking vessels, stoves, plastic productions, terra cottas, &c.
 Glass manufactures; glass for household use and fancy purposes, imitation gems and pearls, unset, &c.
 Processes and manufactures used in the production of the above articles.
 Statistics of production.

Groups and Sections for the Juries.

1st Section. Stone and Cement Wares.
 2nd Section. Earthenware.
 3rd Section. Glass Wares.

GROUP X.

SMALL WARE AND FANCY GOODS.

Preliminary Arrangement.

Manufactures of ivory, meerschaum, tortoise-shell, mother-of-pearl, whalebone, wax wares, japanned goods, &c.
 Fancy goods, of leather, bronze, &c.
 Umbrellas, parasols, fans, canes, whips, &c.
 Combs and brushes.
 Toys.
 Processes and inventions used in the production of manufactures.
 Statistics of production.

Groups and Sections for the Juries.

1st Section. Manufactures of Meerschaum, Tortoise-shell, Horn, Bone, Ivory, Mother-of-Pearl, Whalebone, etc.
 2nd Section. Toys and Wax Works.
 3rd Section. Small Ware and Fancy Goods of Leather and Bronze, Lacquered Work.
 4th Section. Canes, Whips, Umbrellas, and Parasols.

GROUP XI.

PAPER INDUSTRY AND STATIONERY.

Preliminary Arrangement.

Paper pulp, paper, and pasteboard.
 Coloured papers, paper hangings, tapestry, playing cards, &c.
 Papier-mâché goods, card, and millboard.
 Articles for writing, drawing, and painting.
 Bookbinding and similar work.
 Processes and manufactures used in the production of the above manufactures.
 Statistics of production.

Groups and Sections for the Juries.

1st Section. Paper Wares, Pasteboard, and Paper.
 2nd Section. Coloured Paper, Paperhangings, Playing Cards, Cartoon Paper.
 3rd Section. Writing and Drawing Paper, and Painters' Requisites.
 4th Section. Bookbinders', Portfolio and Papier Mâché Goods.

GROUP XII.

GRAPHIC ARTS AND INDUSTRIAL DRAWING.

Preliminary Arrangement.

Book printing.
 Xylography.
 Copper-plate and steel-plate printing.
 Lithography and chromo-lithography.
 Photography.
 Engraving and guilloche work.
 Pattern-drawing and drawing for decoration.
 Tools and apparatus.
 Statistics of production.

Groups and Sections for the Juries.

1st Section. Book, Copper, Steel-plate, and Music Printing; Lithography, Chromography.
 2nd Section. Engraving and Guilloche work, Xylography.
 3rd Section. Photography.
 4th Section. Pattern Drawing and Paintings for Decoration.

GROUP XIII.

GENERAL MACHINERY.

Preliminary Arrangement.

Prime movers (steam generators, steam-engines, water-wheels, turbines, pressure engines, air, wind, and electro-magnetic engines, gas machines.

Machines for transmitting power (shafts, wheels, pulleys, bands, &c.

Machinery for working special kinds of materials (machines for mining, metallurgy, metal work, and wood work; machines for spinning, weaving, knitting, sewing, and embroidering; machines for fulling, cleansing, shearing, dyeing; machines for bleaching, leather-dressing, &c.; machines for paper manufactures and bookbinding, for type-founding, printing, lithography, copper-plate printing, colour printing, &c.; machines and apparatus for sugar-making, oil manufacture, breweries distilleries, stearine, soap, candles, starch, ice-making, match-making, corn mills, and agricultural machinery and apparatus).

Other machinery not belonging to the above-mentioned (blast-engines, fire engines, pumps, ventilators, &c.).

Materials and parts of machinery.

Railway machinery (locomotives, tenders, railway velocipedes and parts of them, railway carriages and parts composing them, special machinery and apparatus for railway workshops and railway contrivances; for making and maintaining railway plant; snow ploughs, &c.).

Steam gauges, dynamometers, tridiometers, &c.

All sorts of vehicles not concerned with rail.

Statistics of production.

Groups and Sections for the Furies.

1st Section. Prime-movers machines for transmitting power; parts of machinery.

2nd Section. Machines for working special kinds of material (with the exception of Agricultural Machines, which are classified in Group II).

3rd Section. Means of Transport and other plant for Railways.

4th Section. Street Locomotives, and other kinds of transport.

GROUP XIII. A.

AGRICULTURAL MACHINERY.

GROUP XIV.

PHILOSOPHICAL, SURGICAL INSTRUMENTS.

Preliminary Arrangement.

Mathematical, astronomical, physical, and chemical instruments (instruments for measuring, weighing, and dividing, for optical purposes and electric telegraphy).

Surgical instruments and apparatus (artificial limbs, teeth, &c.).

Horological instruments, clocks, watches, and their parts (chronoscopes, chronographs, electric clocks).

Statistics of production.

Groups and Sections for the Furies.

1st Section. Mathematical, Astronomical, and Physical Instruments. Chemical Apparatus.

2nd Section. Clocks and Watches.

3rd Section. Surgical Instruments.

GROUP XV.

MUSICAL INSTRUMENTS.

Preliminary Arrangement.

Musical instruments.
Parts of them (strings, bows, moulding boards, membranes, keys, pipes, &c.).
Sound carrying apparatus (speaking pipes, signal whistles, &c.).
Bells, chime of bells.
Statistics of Production.
(*Vide* Additional Exhibition, No. 3.)

Groups and Sections for the Juries.

1st Section. Keyed Instruments (as Pianos, Organs, Harmoniums).
2nd Section. Stringed Instruments (as Harps, Guitars, Zithers).
3rd Section. Wind Instruments, Musical Boxes, &c.

GROUP XVI.

THE ART OF WAR.

Preliminary Arrangement.

Organisation and recruiting of armies.
Equipment of troops, accoutrements, and armour.
Artillery.
Military engineering.
Sanitary contrivances.
Military education, training, and instruction.
Cartography and historiography.

Groups and Sections for the Juries.

1st Section. Equipment of Troops.
2nd Section. General Armament, Artillery, and Military Engineering.
3rd Section. Sanitary Arrangements.
4th Section. Military Education and Instruction, Cartography and Historiography.

GROUP XVII.

THE NAVY.

Preliminary Arrangement.

Materials for naval architecture.
Models and drawings of boats and ships for inland lake and river navigation; sea-going ships, coasting vessels, merchant ships, and ships of war, stores and fittings for equipment, outfit, and armament of ships.
Tools and apparatus used in shipbuilding.
Land and waterworks for navigation (models and drawings of docks, harbours, sluices, floating docks, floating batteries, and coast defences).
Clothing, outfit, and accommodations for crews.
Hydrography, charts, meteorological instruments; education of seamen and officers.

Groups and Sections for the Juries.

1st Section. Naval Architecture and Equipment.
2nd Section. Structures for Navigations: Hydrography.

GROUP XVIII.

CIVIL ENGINEERING, PUBLIC WORKS, AND ARCHITECTURE.

Preliminary Arrangement.

- Building materials; processes and apparatus for quarrying, brickmaking; iron girder work; preparation and preservation of wood; artificial stone, terra-cotta work, &c.
- Materials and appliances for foundations (pile-drivers, screw-piles, coffer-dams, caissons, pneumatic and diving apparatus).
- Contrivances and tools for earth-works (excavators, dredging machines, apparatus for raising, carrying, and transporting earth and materials).
- Materials and apparatus used for roads and railways (road rollers; railway superstructure, switches, crossings, turn-tables, traversing-tables, inclined planes, lifts; pneumatic and other modes of propelling; water stations and their apparatus, railway station buildings of all kinds, and systems of railway signals).
- Hydraulic engineering works, excluding sea works (river works, canal works, dikes, locks, dams, &c.).
- Models and plans of viaducts, bridges, and aqueducts, &c.
- Plans, models, and drawings of public buildings, dwelling-houses, barracks, penitentiaries, prisons, and hospitals, schools and theatres, labourers' cottages; apparatus for lifting and moving heavy weights in buildings, as lifts, &c.; plans and models of cheap dwelling-houses; tools and implements of artisan builders.
- Apparatus and inventions for health, comfort, and convenience in buildings (for lighting, water supply, drainage, waterclosets, lightning conductors, &c.).
- Agricultural engineering; plans for culture, fencing, draining; farm buildings; buildings for cattle breeding; stores, stables, manure tanks, &c.
- Industrial buildings; spinning mills, weaving mills, grinding mills; distilleries, breweries, sugar manufactories; warehouses, sawmills and docks, &c.

Groups and Sections for the Juries.

- 1st Section. Above ground Building.
- 2nd Section. Hydraulic Architecture.
- 3rd Section. Making of Roads and Construction of Railways.

GROUP XIX.

THE PRIVATE DWELLING HOUSE, ITS INNER ARRANGEMENT AND DECORATION.

Preliminary Arrangement.

- Models, drawings, and finished buildings representing dwelling-houses of civilized nations.
- Drawings, models, and examples of thoroughly furnished apartments.

Groups and Sections for the Juries.

- The Private Dwelling House.

GROUP XX.

THE FARM HOUSE, ITS ARRANGEMENTS, FURNITURE, AND UTENSILS.

Preliminary Arrangement.

- Finished buildings, models, and drawings of farm-houses of the different nations of the world.
- Drawings, models, and examples of peasant rooms, furnished and fitted out with their furniture and apparatus.

Groups and Sections for the Juries.

- The Farm House.

GROUP XXI.

NATIONAL DOMESTIC INDUSTRY.

Pottery and porcelain.

Fabrics, tapestry, embroidery, lace, and other needle-work.

Metal articles and ornaments.

Carved work and utensils.

National Domestic Industry.

GROUP XXII.

*Preliminary Arrangement.**Groups and Sections for the Juries.*

EXHIBITION SHOWING THE ORGANISATION AND INFLUENCE OF MUSEUMS OF FINE ART AS APPLIED TO INDUSTRY.

The various methods and means by which the different modern Museums (viz.: the South Kensington Museum in London, and the similar Museums in Vienna, Berlin, Moscow, &c.) endeavour to carry out the improvement of the general taste of the people, and the manner in which they promote the art, industry, and public instruction of their countries.

Exhibition of the objects which have been produced and propagated by these modern Museums.

Representation of the Influence of Museums on Art Industry.

GROUP XXIII.

ART APPLIED TO RELIGION.

*Preliminary Arrangement.**Groups and Sections for the Juries.*

Decoration of Churches (wall decoration, stained glass, glass painting, &c.).

Church furniture (altars, organs, pulpits, pews, shrines for enclosing sacred vessels, &c.).

Ornaments for altars, pulpits, crucifixes, chalices, liburiums, candlesticks, altar hangings and carpets, pulpit hangings, &c.

Objects used in baptism and funerals, &c.

Ecclesiastical Art.

Note 1.—The objects exhibited in Groups XIX., XX., XXI., XXII., and XXIII. will be judged by special juries formed of members of the juries of those Groups to which the objects, considered from an industrial point of view, belong.

GROUP XXIV.

OBJECTS OF FINE ARTS OF THE PAST, EXHIBITED BY AMATEURS AND OWNERS OF COLLECTIONS (EXPOSITION DES AMATEURS).

*Preliminary Arrangement.**Groups and Sections for the Juries.*

Paintings of ancient masters

Objets d'art. Bronzes, enamels, miniatures, majolicas, porcelain, faïence, &c., &c.

Not subject to the Cognisance of a Jury.

GROUP XXV.

FINE ARTS OF THE PRESENT TIME, WORKS PRODUCED SINCE THE SECOND LONDON EXHIBITION OF 1862.

Architecture, including models, designs, sketches, and surveys of architectural works of the present time.

Sculpture, including figures and groups of small sizes; engraving, medals, &c.

Paintings, including miniatures and enamels.

Graphic Arts, including copper and steel engravings, etchings, woodcuts, &c.

1st Section. Architecture.

2nd Section. Sculpture.

3rd Section. Painting.

4th Section. Drawing.

GROUP XXVI.

EDUCATION, TEACHING AND INSTRUCTION.

Preliminary Arrangement.

Education, exhibition of all the arrangements and contrivances for the better nursing, training, and rearing of children; their physical and mental development from the first days of their life up to school-time; their nourishment. Cradles, nurseries, &c.; child gardens, (kinder-garten), child games and amusements, child gymnastics.

Teaching. Exhibition of school houses and school apparatus in models, drawings, and examples. Exhibition of means of instruction. The works and journals of instruction. Description and illustrations of methods of instruction. History and statistics of a school, its organisation and laws.

- (1.) Elementary schools. This department will include apparatus for the instruction of the blind, deaf, dumb, and idiots.
- (2.) Middle schools, comprehending gymnasiums, "Realschulen," or schools wherein exact science and modern languages are taught.
- (3.) Professional and technical colleges.
- (4.) Universities.

Instruction in the more limited sense; instruction of adults through literature, the public press, public libraries, and educational societies, and associations for instruction.

All machinery is contained in Group 13, but, nevertheless the machines for working special kinds of material will be examined by the jury of the professional group to which they may belong, with the assistance also of competent machine builders. It is left to the free will of the exhibitor to choose the group in which he wishes his object to be placed, should it be susceptible of being placed in more than one group.

Groups and Sections for the Series.

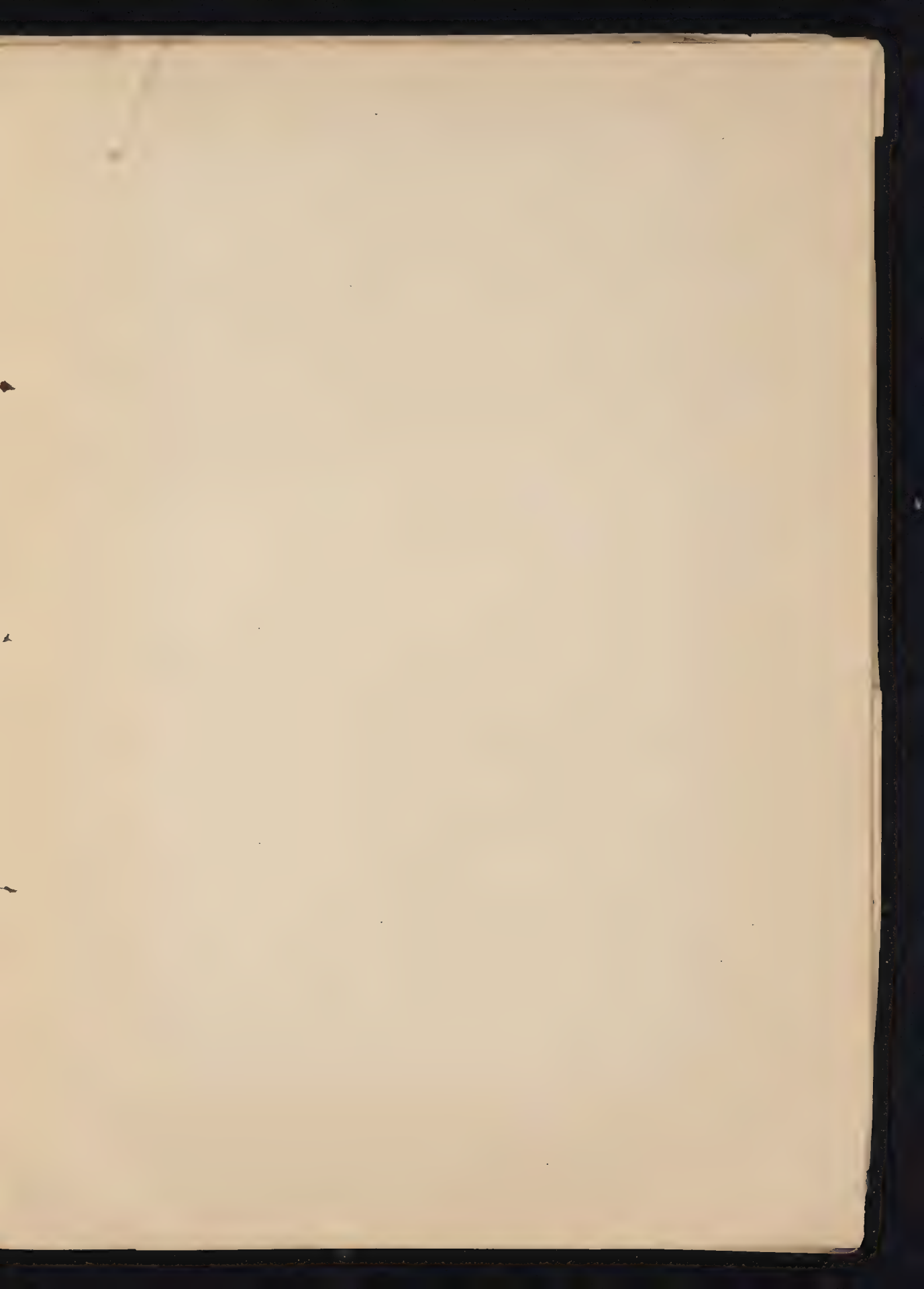
- 1st Section. Plans, Organization, means of instruction, and performances of National Schools.
- 2nd Section. Middle Class Schools.
- 3rd Section. Technical Colleges and Universities.
- 4th Section. Auxiliary means for the improvement of Adults.

ADDITIONAL EXHIBITIONS.

1. The history of inventions.
2. The history of industry.
3. Exhibition of musical instruments of Cremona.
4. Exhibition of the use of waste materials and their products.
5. The history of prices.
6. The representation of the commerce and trade of the world.

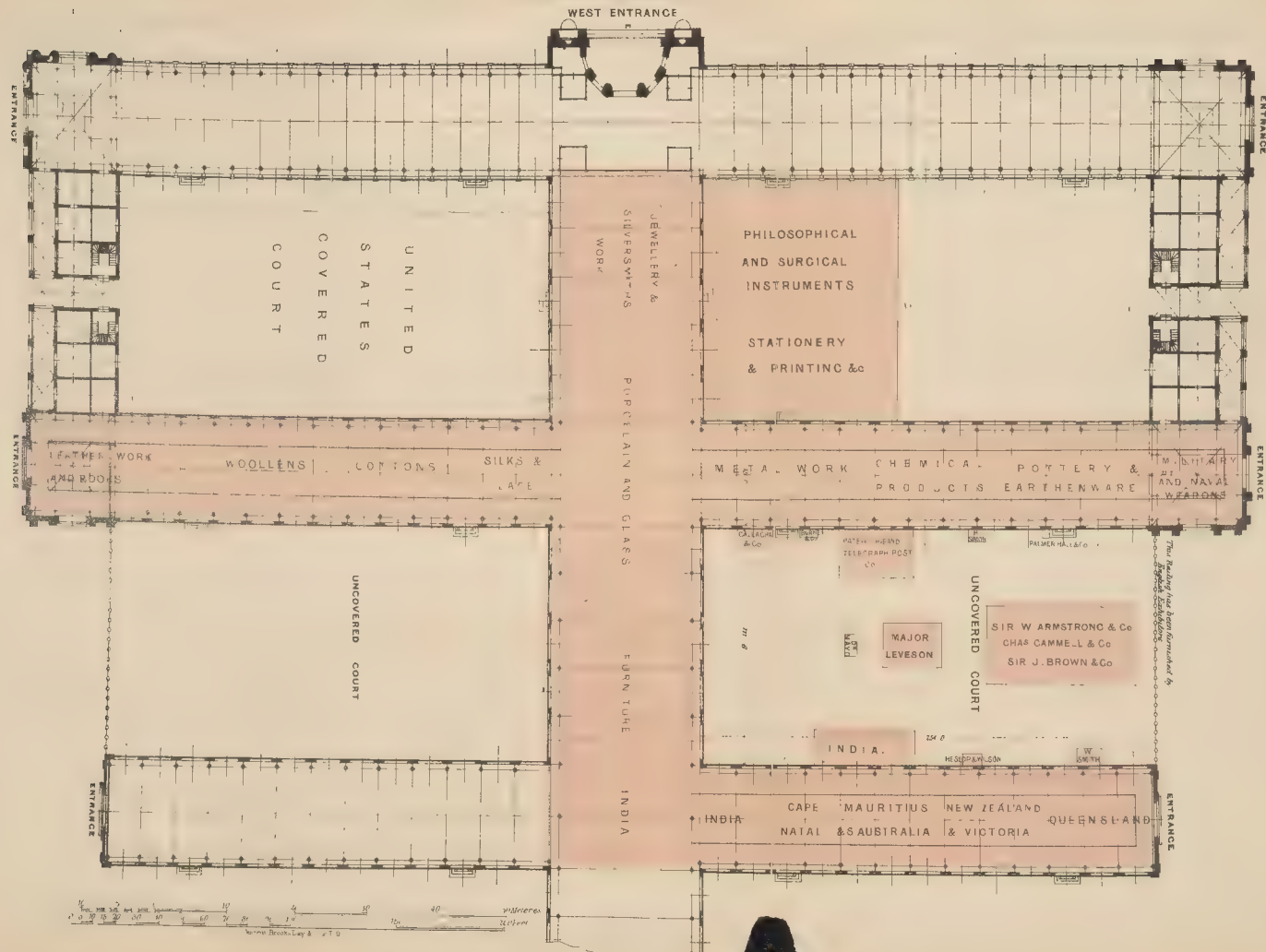
TEMPORARY EXHIBITIONS.

1. Live Animals (horses, cattle, sheep, pigs, dogs, fowls, game, fish, &c.).
2. Butcher's meat, venison, poultry, pork, &c.
3. Dairy produce.
4. Garden produce (fresh fruits, fresh vegetables, flowers, plants, &c.).
5. Living plants injurious to agriculture and forestry.



VIENNA UNIVERSAL EXHIBITION, 1873

SPACE ALLOTTED TO GREAT BRITAIN, INDUSTRIAL BUILDING.



ALPHABETICAL LIST OF INDUSTRIAL EXHIBITORS.

Name.	Address.	Group.
ADAMS, JNO., Victoria Park, Sheffield..	III.
ADAMS, R., 31, Strutton Ground, Westminster	XIII.
ADAMSON, D., AND CO., Newton Moor Iron Works, Hyde, near Manchester	XIII.
AHRENS, BERNHARD, 24, Ludgate Hill, London	XIV.
AINSWORTH, T., Cleator, Carnforth	V.
AIRE AND CALDER GLASS BOTTLE COMPANY (E. BREFFIT), Castleford, Yorkshire	IX.
AITCHISON, JAMES, 23, Princes Street, Edinburgh	VII.
ALEXANDER, R., 23, St. James's Square, Edinburgh	III. & IV.
ALLEN, EVERITT, AND SONS, Kingston Metal Works, Birmingham	VII.
ANDRADE, DE COSTA AND CO., 7, Cripplegate, London	II
ANGLO-BAVARIAN BREWERY COMPANY, Shepton Mallett, Somersetshire	IV.
APPLEBY, BROTHERS, Emmerson Street, Southwark, London	XIII.
APPLEYARD, HENRY, 36, Lower Sackville Street, Dublin	V.
ARMITAGE, SIR ELKANAH, AND SONS, 48, Moseley Street, Manchester	V.
ARMSTRONG, SIR W., AND CO., Elswick Works, Newcastle-on-Tyne	XIII. & XVI.
ARNOLD, BARUCHSON, AND CO., Hackins Hey, Liverpool	IV.
ASH, C., AND SONS, 7, 8, and 9, Broad Street, Golden Square, London	XIV.
ASHTON AND CO., 45, Chorlton Street, Manchester	V.
ASHWORTH, E., AND SONS, Egerton Mills, Bolton	V.
ATKINS, CHARLES, AND CO., 1, Water Lane, Great Tower Street, London	XV.
ATKINSON, J. AND E., 24, Old Bond Street, London	III. & X.
ATKINSON, R., AND CO., 31, College Green, Dublin	V.
ALLWOOD, W., AND SONS, Alcester	VII.
AUGENER AND CO., 8, Newgate Street, London	XII
AVELING AND PORTER, Rochester, and 72, Cannon Street, London	{ XIII., XIII.A XVIII.
AVERY, W., AND SONS, Redditch, Worcestershire	VII.
BACON, G. W., 127, Strand, London	XIII.
BAILDON, H. C., 73, Princes Street, Edinburgh	III.
BAINES, W. N., 78, Lancefield Street, Glasgow	XIII.
BAKER, J., Falcon Works, Wisbeach, Cambridgeshire	XIII.A
BAKER, T., Whitewall Ironworks, Compton, Berks.	XIII.A
BALDWIN, E. P., AND W., Wilden Works, near Stourport	VII.
BAMLETT, A. C., Thirsk, Yorkshire..	XIII.A
BANNER, SAMUEL, 4, Fazakerley Street, Liverpool	III.
BARBOUR, W., AND SONS, Hilden Flax Mills, Lisburn, Ireland	V.
BARFORD AND PERKINS, Queen Street Ironworks, Peterborough	XIII.A
BARLOW, THOMAS, Loughton, Staffordshire	IX.
BARNARD, BRADLY, 107, St. Paul's Road, Highbury, London	VIII.
BARNARD, BISHOP, AND BARNARDS, Norfolk Ironworks, Norwich	XIII.A & XXV.
BARNARD, WILLIAM, Sawbridgeworth, Hertfordshire	IV.

Name.	Address.	Group.
BARRACLOUGH, T., 10, St. James's Square, Manchester	XIII.
BARROW FLAX AND JUTE COMPANY, LIMITED, Barrow-in-Furness, Lancashire	V.
BARTHOLOMEW, J., 17, Brown Square, Edinburgh	XII.
BATEMAN, D., AND SONS, Low Moor, near Bradford, Yorkshire	XIII.
BATTAM, HEYWOOD, AND HANKS, 54, Oxford Street, London	VIII.
BATTY AND Co., 15 and 16, Pavement, Finsbury, London	IV.
BAXTER, W. H., Elm Cottage, Brixton Hill, London	XIII.
BEASLEY, F., Jun., 30, Upper Hamilton Terrace, St. John's Wood, London	XII.
BEAU, ADOLPHE, Regent Street, London	XII.
BEHRENS, LOUIS, Portland Street, Manchester	V.
BELL, J., AND SON, 338, Oxford Street, London	III.
BELL, J., Sawmill Ironworks, Honley, near Huddersfield	XIII.
BENHAM AND SONS, 50, 52, 54, Wigmore Street, Cavendish Square, London	VII.
BERGER, S., AND Co., Bromley-by-Bow, London	III.
BERGIUS, W. C., 103, West Regent Street, Glasgow	XIII.
BERNAYS, JOSEPH, 96, Newgate Street, London	XIII.
BERTRAM, J., AND SON, Keith Walk Foundry, Edinburgh	XIII.
BESSEMER STEEL AND ORDNANCE COMPANY (LIMITED), 17, Gracechurch Street, London	XIII.
BEST AND LLOYD, Cambray Works, Handsworth, Birmingham	VII.
BETJEMANN, G., AND SONS, 36 to 40, Pentonville Road, London	VII.
BETZOLD, G., AND Co., Belfast	V.
BEUKE, J. A., AND Co., 7, Rumford Street, Liverpool	II.
BEWICKE, D. AND Co., Wallace Road, Hackney Wick, London	III.
BEWLAY AND DRAPER, 23, St. Mary Street, Dublin	III.
BICKFORD, SMITH, AND Co., Tucking Mill, Cornwall	XVIII.
BIRNBAUM, B., 21, New Broad Street, London	VI.
BINKO, H. BOCK, 183, City Road, London	X. & XI.
BIRCHALL AND Co., Leeds	V.
BLACKWOOD, J. AND Co., 18, Bread Street Hill, London	XI.
BLACKWOOD AND SONS, Edinburgh	XXVI.
BLADES, EAST, AND BLADES, 11, Abchurch Lane, London	XII.
BLAKEBOROUGH, JOSEPH, Brighouse, Yorkshire	XVIII.
BLASHILL, T., 10, Old Jewry Chambers, London	XXV.
BLEWS, W., AND SONS, 9 to 15, and 38 to 41, New Bartholomew Street, Birmingham	VII. & XV.
BLISS, W., AND SON, Chipping Norton, Oxford	V.
BOASE, Miss, Drummond Place, Edinburgh	XXVI.
BOBY, ROBT., St. Andrew's Works, Bury St. Edmunds	XIII.
BOND, M. A., 75, Southgate Road, London	III.
BORWICK, G. AND SONS, 24, Chiswell Street, London	III. & IV.
BOSTOCK AND ABINGTON, 20, James Street, Liverpool	II.
BOUCHER, GUY, AND Co., 128, Leadenhall Street, London	IX.
BOWES, J. S., AND BROTHERS, Queen's Buildings, Liverpool	II.
BOWLING IRON COMPANY (LIMITED), Bradford, Yorkshire	VII.
BOWMAN, BROTHERS, Range Road, Lee Bank, and Union Mills, Halifax	V.
BRACE, H. AND Co., LIMITED, 3, Bridge Street, Walsall	VI.
BRADBURY AND Co., Wellington Works, Oldham	XIII.
BRADFORD, T., AND Co., 63, Fleet Street, London	XIII.

INDUSTRIAL EXHIBITORS.

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Name.	Address.	Group.
BRANCHER, J. B., 32, Exchange Alley, Liverpool	IV.
BRANDAUER, C., 401, New John Street West, Birmingham	VII.
BRIGHAM AND CO. (PER MESSRS. FLEISCHER AND CO.), Berwick-upon-Tweed	XIIIA.
BRINTON, J., AND Co., Kidderminster	V.
BRITISH AND FOREIGN BIBLE SOCIETY, Queen Victoria Street, Blackfriars, London	XII.
BRITISH SEAWEED COMPANY (LIMITED), Whitecrook Chemical Works, Dalmuir, Glasgow	III.
BROAD, WILLIAM, Austrian and Hungarian Vice-Consul, Falmouth	I.
BROADHEAD, R. AND Co., Britannia Works, Sheffield	VII.
BROCKLEHURST, MESSRS., Macclesfield	V.
BROOK, JONAS, AND BROTHERS, Meltham Mills, Huddersfield	V.
BROOKES AND CROOKES, Atlantic Works, Sheffield	VII.
BROTCHIE, R., AND Co., Leith, N.B.	IV.
BROTHERHOOD AND HARDINGHAM, 53, and 56, Compton Street, Goswell Road, London	XIII.
BROUGHTON COPPER COMPANY, Broughton Copper Works, Manchester	XIII.
BROWN, J. B. AND Co., 90, Cannon Street, London	VII.
BROWN, SIR J., AND Co., Sheffield	VII.
BROWN, BROTHERS, AND Co., Rosebank Ironworks, Edinburgh	XIII.
BROWNRIGG, T. M., 32, Lower Leeson Street, Dublin	XII.
BROWN-WESTHEAD, MOORE, AND Co., Hanley, Staffordshire	XVIII. & XXI.
BRUCE AND COMPANY, South Shields	V.
BRYANT AND MAY, Fairfield Works, Bow, London	III.
BUDDE, C. AND Co., Birmingham	VII.
BURGESS AND KEY, Holborn Valley Viaduct, London	XIIIA.
BURGH CASTLE CEMENT COMPANY, Buigh Castle, Great Yarmouth	IX.
BURKE, JAS. H., 31, Wellington Quay, Dublin	XXI.
BURNEY AND Co., Millwall Docks, London	VII.
BURKE AND Co., 17, Newman Street, London	IX.
BUSBY, THOS., 10, Baron Street, Pentonville, London	XVIII.
BUSH, W. J. AND Co., 21 & 22, Artillery Lane, Bishopsgate, London	III.
CAFFERATA AND Co., High Street, Borough, London	II.
CALLAGHAN, WILLIAM, 23A, New Bond Street, London	XXVI.
CALVERT, F. C., AND Co., Tower Chemical Works, Bradford, near Manchester	III.
CAMERON, MRS. JULIA M., Freshwater Bay, Isle of Wight	XII.
CAMMELL CHAS. AND Co., LIMITED, Cyclops Steel and Ironworks, Sheffield	VII.
CANTRELL AND COCHRANE, 25, Bank Street, Belfast	III.
CARINGTON, THE LADY, 8, Whitehall Yard, London	V.
CARLILE, JAS., SONS, AND Co., Bank End Mills, Paisley	V.
CARSON, W. AND SONS, La Belle Sauvage Yard, Ludgate Hill, London	III.
CARTER, DUNNETT, AND BEALE, 237 and 238, High Holborn, London	II.
CATER AND WALKER, Grove Steam Boiler Works, Southwark, London	XIII.
CHAMBERS, H., 64, Mark Lane, London	XVIII.
CHANCE BROTHERS AND Co., Glass Works, near Birmingham	XVII.
CHATWOOD, S., 120., Cannon Street, London, and Lancashire Safe and Lock Works, Bolton	VII.
CHRISTIE, W., 35, Station Street, Walsall	VI.
CHRISTY, J. E. AND W., AND Co., 35, Gracechurch Street, London	V.

Name.	Address.	Group.
CLARK AND Co., Anchor Thread Works, Paisley	V. & XIII.
CLARK AND Co., Rathbone Place, Oxford Street, London	VII.
CLARKE, E., Patent Crank Works, Lincoln..	XIII.
CLARK, J., AND Co., Paisley Thread Works, Paisley	V.
CLARK, WILLIAM, 232, Oxford Street, London*	VII.
CLARK, I. P., King Street Mills, Leicester	V.
CLARK BROTHERS AND ODLING, Kirk White Street, Nottingham	XIII.A.
CLARK, W. AND SONS, 383, Kennington Road, Lambeth, London	VIII.
CLARKE, CASPAR, 16, Earl's Court Gardens, South Kensington, London	XXII.
CLARKE AND DUNHAM, 48, Mark Lane, London	XIII.A.
CLARKE, G. B., Park Street, Woburn	IV.
CLARKE, J. R., 5, Liverpool Street, Walworth, London	VIII.
CLARKE, SON, AND MORLAND, Glastonbury, Somersetshire	VI.
CLARKSON BROTHERS, Glasgow. See J. McNicol, Gr. XIII,	XIII.
CLAYTON, SON, AND HOWLETT, Atlas Works, Woodfield Road, Harrow Road, London	I.
CLAYTON AND SHUTTLEWORTH, Stamp End Works, Lincoln	XIII.A.
COALBROOK-DALE IRON COMPANY, Coalbrook-dale	VII.
COATS, J. & P., Ferguslie Thread Works, Paisley	V.
CODD, H. (per Messrs. DOWS, CLARK AND Co.), Grove Lane, Camberwell	IX.
COGSWELL, J., AND Co., Trowbridge, Wilts.	V.
COHNE, S. (per H. C. HADDON), 62, Falmouth Road, London	III.
COLEMAN AND MORTON, London Road Ironworks, Chelmsford, Essex	XIII.A.
COLLIER, LUKE, Wellington Works, River Street, Rochdale	XIII.
COLLINGS AND WALLIS, King Edward's Road, Birmingham	VII. & X.
COLLINSON AND LOCK, 109, Fleet Street, London,	VIII.
COLMAN, J. AND J., 108, Cannon Street, London	III. & IV.
COLTMAN, W., 22, Promenade Villas, Cheltenham	VI.
COMBE AND BARBOUR, Falls Foundry, Belfast	XIII.
CONSTABLE, W. H., Cambridge Stained Glass Works, Cambridge	XXIII.
COOKE, T., AND SONS, Buckingham Works, York	XIV.
COOKE, SONS, AND LAW, 12, Friday Street, London	V.
COOPER AND HOLT, 48, 49, and 50, Bunhill Row, London,	VIII.
COOPER, WM. TEMPLE, 26, Oxford Street, London	II.
COPELAND, W. T., AND SONS, 160, New Bond Street, London	IX. & XXI.
COPESTAKE, MOORE, CRAMPTON AND Co., Bow Churchyard, London	V.
CORBIERE, E., AND SON, 30, Cannon Street, London	V.
CORCORAN, BRYAN, WITT AND Co., 48, Mark Lane, London,	XIII.A.
CORNELISSEN AND TALLE, 22, Great Queen Street, Lincoln's Inn Fields	III.
CORNES, W. W., AND Co., Macclesfield	V.
COULTAS, JAMES, Perseverance Ironworks, Spittlegate, Grantham	XIII.A.
COWAN, ALEX. AND SONS, Valleyfield Mills, Pennicuick, near Edinburgh	XI.
CRAWSHAY, ROBERT, Cyfarthfa Castle, Merthyr Tydvil	XII.
CREMER, W. H., 210, Regent Street, London	X.
CRITCHLEY, BRINSLEY AND Co., Macclesfield	V.
CROGGON AND Co., 10, Upper Thames Street, London	VII.
CROPPER, H. S., AND Co., Hockley Mill, Nottingham	XIII.
CROSSE AND BLACKWELL, 21, Soho Square, London	IV.
CROWN IRON WORKS, Glasgow	XIII.

Name.	Address.	Group.
"CROWN" PERFUMERY Co., 40, Strand, London		III.
CROY, ANDREW, 58, North Hanover Street, Glasgow		III.
CUMBERLAND, R., 3, Rue Scribe, Paris		V.
CUNNINGHAM, J. AND J., 102, West Bow, Edinburgh		II.
CWMAMAN COAL COMPANY, Cardiff		I.
CWMORTHIN SLATE COMPANY (LIMITED), Port-Madoc, North Wales.. .. .		IX.
DAFT, T. B., Bridge House, Farnsworth, Manchester		VI.
DAMON, ROBERT, Weymouth.. .. .		XXVI.
DANIELL, A. B. AND SON, 46, Wigmore Street, London		IX. & XXI.
DARBYSHIRE AND SONS, Tower Buildings, Liverpool		II.
DAVEY, PAXMAN & Co., Standard Ironworks, Colchester		XIII., XIII.A.
DAVIES, D., Viaduct Works, Crumlin, Newport, Monmouthshire		XIII.
DAVIS, G., SON AND Co., 37, Sun Street, West, Birmingham		VII.
DAVIS, JOSEPH, AND Co., 92, Crampton Street, Newington Butts, London		XIV.
DAVIS AND PRIMROSE, 68, Duke Street, Leith.. .. .		XIII.
DAY, JOHN B., Savoy Street, Strand, London		XII.
DAY, HOWGATE AND HOLT, Dewsbury		V.
DEARDEN AND NEWSUM, Leeds		XIII.
DEED, J. S., AND SONS, 451, Oxford Street, London		VI.
DE LORIERE, C. E., AND Co., 1, Victoria Street, London		XIII.
DE BERGUE, C., AND Co., 10, Strand, London		XIII.
DE LEON, M., AND Co., 24, Rathbone Place, Oxford Street, London		XII.
DENNY, W., Bros., Dumbarton		XVII.
DENTON AND JUTSUM, 8, New Broad Street, London		III.
DERHAM, JOHN J., Blackburn		XIII.
DERHAM, T. S., 15, Blenheim Terrace, Leeds		XIII.
DERING, GEO. E., Lockleys, Welwyn, Hertfordshire		XIII.
DEWHURST, J., AND SONS, Belle Vue Mills, Skipton		V.
DEWRANCE, J., AND Co., 176, Great Dover Street, London		XIII.
DICKSONS, FERGUSON AND Co., Linen-hall Street, Belfast.. .. .		V.
DINNEFORD AND Co., 162, New Bond Street, London		III. V.
DIXON, J., AND SON, Manning Street, Bermondsey		VI.
DONKIN, B., AND Co., Bermondsey, London		XIII.
DOUGAL, JAS. D., 59, St. James Street, London		VII.
DOULTON AND WATTS, 28, High Street, Lambeth, London		IX.
DOULTON AND Co., Lambeth Pottery, London		VII. & XVIII.
DOUBLEDAY, SON AND Co. (WANZER, R. M. AND Co.), 10 & 11, Aldermanbury, London		XIII.
DOWN AND Co., Woburn, Bedfordshire		II.
DOWS, CLARK AND Co., 6, 7, 8, 9, Bedford Street, Strand, London		XIII.
DREW, J. AND Co., 33, Regent Street, London		VI.
DUDGEON, A., 22, Great George Street, Westminster, London		XIII.
DUNCAN, FLOCKHART, AND Co., 52, North Bridge, Edinburgh		III.
DUNCAN, JNO., 6, George Street, Great Portland Street, London		VIII.
DUNSTON ENGINE WORKS COMPANY, Gateshead-on-Tyne		XIII.
DUNVILLE AND Co., Belfast, Ireland		IV.
EASTONS AND ANDERSON, Grove Works, Southwark		XIII.

Name.	Address.	Group.
EATON, H. W., AND SONS, 33, Old Broad Street, London	II. & V.
ECROYD, W., AND SON, Tyers Gateway, Bermondsey Street, London	VI.
EDINBURGH ROPERY Co., Leith	II.
EDWARDS, G. B., High House, Bredfield, Woodbridge	XIIIa.
EDWARDS, W. J. (for Sampson and Co.), 20, Market Place, Manchester	XIII.
ELEY, BROTHERS, 254, Gray's Inn Road, London	XVI.
ELKINGTON AND Co., Newhall Street, Birmingham	VII.
ELLAM, BENJAMIN, 213, Piccadilly, London	VI.
ELMSLIE, EDMUND W., 5, Great Winchester Street Buildings, Old Broad Street, London	VII.
ENGERT AND ROLFE, Barchester Street, Poplar New Town, London	V.
ENGLISH CONDENSED MILK COY., LIMITED, 95, Leadenhall Street, London	IV.
ENGLISH, JAS. AND Co., 22, Bridge Row, Cannon Street, London	XI.
ENTWISTLE AND KENYON, Ewbank Works, Accrington	XIII.
ERMEN AND ENGELS, Manchester	V.
EVANS, D. AND Co., 1, Wood Street, Cheapside, London	V.
EVANS, JAMES, 46, Seel Street, Liverpool	XIII.
EVANS, LESCHER, AND EVANS, Bartholomew Close, London	II. & III.
EVANS, P. AND S., AND Co., Avonside Tannery, St. Philip's, Bristol	VI.
EVANS, W. AND Co., Derby	V.
EVERITT, A., AND SONS, Kingston Metal Works, Birmingham	VII.
FABER, A., Mincing Lane, London	XXI.
FARROW AND JACKSON, 18, Great Tower Street, London	VII.
FEATHERSTON, ISAAC C., 7, Westminster Chambers, Victoria Street, London
FEETHAM, M., AND Co., 9, Clifford Street, London	VII.
FENTON, SON, AND Co., AND FENTON, S. G., AND Co., Linen Hall, Belfast	V.
FERNELEY, CHAS. A., Scalford Road, Melton Mowbray	XII.
FIELD, J. C., AND J., Upper Marsh, Lambeth, London	III.
FIRTH, T., AND SONS, Norfolk Works, Sheffield	VII.
FLEMING, A. B., AND Co., Leith, N.B.	III.
FLEMING, T., AND SON, West Grove Mills, Halifax, Yorkshire	XIII.
FOLEY, ARTHUR, Fisherton Machine Cabinet Works, Salisbury	VIII.
FOLLOWS AND BATE, Dutton Street Works, Manchester	XIIIa.
FORD, LEWIS, AND Co., Bristol Road, Gloucester	IX.
FORTNUM AND MASON, 181 to 183, Piccadilly, London	II. & IV
FOSTER, W., AND Co., Wellington Foundry, Lincoln	XIIIa.
FOWLER, G. AND T., 25, Great Dover Street, London	III.
FOWLER, J., AND Co., 71, Cornhill, London	XIIIa.
FOX, WALKER, AND Co., Atlas Engine Works, Bristol	XIII.
FRANCHI & Co., 15, Myddleton Street, Clerkenwell, London	VII.
FRANCIS, T., AND Co., Liverpool Street, Birmingham	VII.
FRENCH & Co., 9, Royal Exchange, London	XIV.
FRY, J. S. AND SONS, 12, Union Street, Bristol, and 252, City Road, London	IV.
FUSSELL, JAS., SON AND Co., Frome, Dorsetshire	VII.
GABRIEL, MESSRS., 64, Ludgate Hill, London	XIV.
GABRIELLI, A., 4, Westminster Chambers, London	XIII.
GALLOWAY, W. AND J., AND SONS, Knott Mill Ironworks, Manchester	XIII.

INDUSTRIAL EXHIBITORS.

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Name.	Address.	Group.
GARDNER, JOSEPH, AND CO., 5, New London Street, London	II.
GARRETT, R., AND SONS, Leiston Works, Suffolk..	XIII.
GARTON, RUSSELL, AND CO., Laurence Hill, Bristol	IV.
GERRARD, E., JUNR., 31, College Place, Camden Town, London	XXVI.
GEYELIN AND CO., Belgrave House, Argyle Square, London	IV.
GIBBS, JAMES, AND COMPANY, 16, Mark Lane, London	II.
GILLET AND BLAND, Croydon, Surrey	XIV.
GILLOTT, JOSEPH, AND SONS, Victoria Works, Birmingham	VII.
GILLOW AND CO., 176, Oxford Street, London	VIII.
GILROY, BROS. AND CO., Dundee	II.
GLOVER, G., AND CO., Ranelagh Road, Pimlico, London	XIII.
GODBOLD, H. J., 8, Grand Parade, St. Leonards-on-Sea	XII.
GOGGIN, JEREMIAH, 74, Grafton Street, Dublin	VII.
GOLDSCHMIDT AND SIPMAN, Nottingham	V.
GOODALL, BACKHOUSE, AND CO., Boar Lane, Leeds, Yorkshire	IV.
GORDON, J., AND CO., 5, Grosvenor Buildings, Liverpool	II.
GORDON, LT.-COL., R.E., London	XIII.
GOWER, WOODWARD, AND CO., Waterside Mills, Kidderminster	V.
GRANGER, J., Hood Street Works, Birmingham	III.
GRANT AND CO., 72 to 78, Turnmill Street, London	XII.
GRAY, P., 7, Cork Street, Burlington Gardens, London	XIV.
GREAVES, JNO., W., Portmadoc, North Wales	IX.
GREEN, E., AND SON, 14, St. Ann's Square, Manchester	XIII.
GREEN, JAMES, 35, Upper Thames Street, London	IX.
GREEN, JOHN, 12, Graham Terrace, Ridley Road, Kingsland, London	III.
GREENWOOD, J., AND SONS, 6 and 7, St. John's Square, Clerkenwell, London	XIV.
GREGORY, JAMES, Newport Road, Lincoln	XVI.
GRUNEBaum, J., 31, Sackville Street, London	IV.
GUNDRY AND SONS, 1, Soho Square, London	V.
GWYNNE, J. AND H., Hammersmith Iron Works, London	XIII.
GWYNNE AND CO., Essex Street Works, Strand, London	XIII.
HADDON AND CO., See Cohnè, S.	III.
HADFIELD, R., Hecla Foundry, Attercliffe, Sheffield	XIII.
HADWIN, G., AND SONS, Kebroyd Mills, near Halifax	V.
HAES, FRANK, 41, St. George's Place, Hyde Park Corner, London	XII.
HAMMILL, JOHN B., Bridgewater	IX.
HANCOCKS AND CO., 38, Bruton Street, London	VII.
HARE, GEORGE, 1, Lower Calthorpe Street, London	XII.
HARMAN, JOHN S., 87, New Bond Street, London	XII.
HARRIS, S. AND H., 57, Mansell Street, London	II.
HARRY, W. D. AND CO., Lower Road, Deptford, Kent	VI.
HARVEY, J., Kidderminster	V.
HAVET, ALFRED G., 24, Charlotte Square, Edinburgh	XXVI.
HAWES, GEORGE E., Chapel Field, Norwich	XXVI.
HAYES, CROSSLEY, AND CO., Alcester	VII.
HAYNES, THOMAS, AND SONS, 227, 229, 231, Edgware Road, London	XIII.
HAZEON, THOMAS, AND CO., 108, Leadenhall Street, London	IX.

Name.	Address.	Group.
HEAD, WRIGHTSON, AND CO., Teesdale Ironworks, Stockton-on-Tees		XIII.
HEAL AND SON, 195 to 198, Tottenham Court Road, London,		VIII.
HEATH, VERNON AND CO., 43, Piccadilly, London		XII.
HEINKE AND DAVIS, 2, Brabant Court, Philpot Lane, Fenchurch Street, London		XVIII.
HEMMING, S. C., AND CO., 25, Moorgate Street, London,		VII.
HEMINGWAY, S., AND CO., Trafalgar Street, Bradford, Yorkshire		III.
HEMBREY, B., AND CO., 91, Newgate Street, London		VI.
HENDERSON AND CO., Durham		V.
HENLEY AND SON, Joiner Street, Tooley Street, Southwark, London,		IV.
HENRY, ALEX., 12, South Saint Andrew Street, Edinburgh		VII. & XVI.
HENRY RIFLED BARREL COMPANY, Blenheim Works, Eagle Wharf Road, London, ..		XVI.
HEPWORTH, B., AND SON, New Wakefield Mills, Dewsbury		V.
HESLOP AND WILSON, Lombard Street, Newcastle-on-Tyne		XIII.
HEWITSON AND CO., 17, Harp Lane, Great Tower Street, London		IV.
HILL, H., AND SONS, 38, Bow Lane, London		XI.
HILL AND SMITH, Brierley Hill Ironworks, Brierley Hill, Staffordshire,		VII. & XIII.
HINCHLIFFE, J. AND J., Queen's Mill, Armley Road, Leeds		V.
HIND, H., AND SON, Queen's Road, Nottingham		XIII.
HITCHCOCK, WILLIAMS, AND CO., 71 to 74, St. Paul's Churchyard, London		V.
HOBBS, HART, AND CO., 76, Cheapside, London		VII.
HODGSON, GEO., Bradford		XIII.
HOLGATE, J., AND CO., 33, Great Dover Street, London		XIII.
HOLLAND AND SONS, 23 Mount Street, London		VIII.
HOLLAND AND CO., Onslow House, Fulham Road, London		XIII.
HOLMES, J. E., 12, Buckingham Street, Strand, London		XIII.
HOLMES AND TAYLOR, 12, Buckingham Street, Strand		XIII.
HOLT, H. P., C.E., Royal Insurance Buildings, Leeds		XIII.
HOMES AND HICKTON (LATE ELI PRIEST), Halesowen, near Birmingham		XIII.
HOOPER, CHAS., AND CO., Eastington Mills, near Stroud, Gloucestershire		V.
HOOPER'S TELEGRAPH WORKS, LIMITED, 31, Lombard Street, London		XIV.
HOPTON, H., AND SON, 67, George Street, Euston Square, London		XIII.
HORNSBY, R., AND SONS, Spittlegate Ironworks, Grantham		XIII.
HORROCKSES, MILLER, AND CO., 9, Bread Street, Cheapside, London		V.
HOUGHTON, W., AND CO., Victoria Mills, Great Grimsby		XIII.
HOWARD, J. AND F., Britannia Ironworks, Bedford		XIII. & XIII.
HOW AND BARCLAY, Manchester Buildings, Liverpool		IV.
HOWITT, W., AND CO. (PER DOWS, CLARK, AND CO.), 13A, Great George Street, Westminster, London		VII.
HUBBUCK, J., 14, Brunswick Street, Liverpool		II.
HUDSPITH, W., South Tyne Works, Haltwhistle, Northumberland		II.
HUDSWELL, CLARKE, AND ROGERS, Railway Works, Leeds		XIII.
HUGHES, H. AND CO., Falcon Works, Loughborough		XIII.
HUGHES AND KIMBER, West Harding Street, Fetter Lane, London		XIII.
HUME, JOHN, 104, West Bow, Edinburgh		II.
HUMPHRIES, J., AND SONS, Kidderminster		V.
HUNT, R., AND TAWELL, J. A., Earl's Colne, Essex		XIII.
HUNTLEY AND PALMERS, 9, Rood Lane, London, and Reading, Berkshire		IV.
HUTCHINSON, J., AND CO., Widnes, Lancashire		III.

Name.	Address.	Group.
HUXHAMS AND BROWN,	Commercial Road, Exeter	VI. & XIII.
HYNAM, JOHN, 7,	Princes Square, Wilson Street, Finsbury, London	VII.
INDIA-RUBBER, GUTTA PERCHA, AND TELEGRAPH WORKS COMPANY		
(LIMITED),	Silvertown, Essex	VI.
INDUSTRIAL DWELLINGS COMPANY, LIMITED (SIR SIDNEY H. WATERLOW,		
CHAIRMAN),	34, Finsbury Circus, London	XVIII.
INGHAM, J., AND SONS,	Thornton, near Bradford	XIII.
INSOLE, G., AND SONS,	Colliery owners, Cardiff	I.
IRVIN AND SELLERS,	Preston	XIII.
IVORY, HEN. A., AND CO.,	Wood Green, Tottenham, London.. .. .	XV.
JACKSON AND GRAHAM,	28 to 38, Oxford Street, London	VIII.
JACKSON, J. AND F.,	Sutton Mills, Macclesfield, Cheshire	V.
JACKSON, T. S.,	199, High Street, Southwark	III.
JACOB, THOMAS,	10, Vicar's Road, Haverstock Hill, London	VIII.
JACOBY, MORITZ, AND CO.,	Stoney Street, Nottingham	V.
JAFFE, BROTHERS,	Belfast.. .. .	V.
JAMES, E., & SONS,	Sutton Road, Plymouth	III.
JEFFREYS, CHARLES,	103, Hatton Garden, London	VIII. & X.
JENNINGS, G., AND CO.,	Lambeth, London	XVIII.
JOHNSON AND ELLINGTON,	Chester	XIII.
JOHNSON, J. C., AND CO.,	25, Great Tower Street, London	IX.
JOHNSON, MATTHEY, & Co.,	Hatton Garden Works, London	III.
JOHNSON, RICHARD, AND NEPHEW,	270, Dale Street, Manchester	VII.
JOHNSON, RICHARD, CLAPHAM, AND MORRIS,	27, Dale Street, Manchester	VII.
JOHNSTON, W. AND A. K.,	4, St. Andrew Square, Edinburgh	II. & IV.
JOHNSTONE, S. P.,	2, Old Church Yard, Liverpool	IV.
JONES, GEORGE,	Trent Potteries, Stoke-upon-Trent	IX.
JONES, ORLANDO, AND CO.,	York Road, Battersea	III.
JONES, OWEN,	9, Argyll Place, London	XVIII.
JONES, PRYCE,	Newtown, Montgomeryshire	V.
JONES, T. & J. H., EVANS, & Co.,	Newtown, Montgomeryshire	V.
KEILLER, J. AND SONS,	Dundee	IV.
KENNEDY'S PATENT WATER METER COMPANY,	Manchester	XIII.
KENT, G. B. AND CO.,	11, Great Marlborough Street, London	X.
KENT, G.,	199, 200, 201, High Holborn, London	XXI.
KENYON, J., AND CO.,	Millsands, Sheffield	VII.
KERR, PRICE, AND CO.,	Underwood and Oakshaw Mills, Paisley	XIII.
KERR, SCOTT, AND SON,	8, Cannon Street, London	V.
KESSELMAYER, W. AND C.,	1, Peter Street, Manchester	V.
KING, F. AND SON,	140, Leadenhall Street, London	IV.
KING, WILLIAM,	Gillroyd and Springfield Mills, Morley, Leeds	V.
KIRBY, BEARD, AND CO.,	18, Cannon Street, London	VII.
KIRKMAN, T., AND SON,	3, Soho Square, London	XV.
KIRKSTALL FORGE COMPANY,	Leeds	VII. & XIII.
KLAFTENBERGER, C. J.,	157, Regent Street, London	XIV.
KULLBERG, V.,	105, Liverpool Road, London	XIV.

Name.	Address.	Group.
KYNASTON, C. M., The Close, Lichfield	XVII.
LAIRD, BROTHERS, Birkenhead Ironworks, Birkenhead	XVII.
LANCASTER, A., 27, South Audley Street	VII.
LANDORE SIEMENS STEEL COMPANY (LIMITED), Landore, near Swansea	VII.
LAPWORTH, BROTHERS, 22, Old Bond Street, London	V.
LAURENCE, W., AND Co. 14, St. Mary Axe, London	XIII. & XVIII.
LAVERS, ALFRED HAMILTON, Nine Elms, London	IX.
LAWSON, S., AND SONS, Hope Foundry, Leeds	XIII.
LAWSON SEED AND NURSERY COMPANY, LIMITED, George IV. Bridge, Edinburgh	II.
LAYBOURN, W. J., 60, St. John Street, West Smithfield, London	V.
LEATHER CLOTH COMPANY, 4, Cannon Street, London	VI.
LE CRAS, J., jun., Halkett House, King Street, St. Heliers, Jersey	XXV.
LEE, H. N. & E., 138, High Holborn, London	VI.
LEE, JAMES ABRAHAM, Severn Ironworks, Lydney, Gloucester	XI.
LEES, R., Lime Place, Galashiels, N.B.	V.
LEIGHTON, JOHN, F.S.A., 12, Ormonde Terrace, Regent's Park, London	XII.
LEMERE, BEDFORD, 147, Strand, London	XII.
LEMPART, MAURICE, 150, Leadenhall Street, London, and Sheffield	VII.
LENNAN AND SONS, 29, 30, 31, Dawson Street, Dublin	VI.
LEONARDT, D., AND Co., 69, George Street Parade, Birmingham	VII.
LESTER, C. & T., High Street, Bedford	V.
LEVESON, MAJOR, 22, King Street, Covent Garden, London	XVI.
LEWIN, STEPHEN, Poole, Dorset	XIII.
LEWIS, ABEL, Douglas, Isle of Man	XII.
LEWIS, E. W., 4, Sherwood Crescent, Upper Westbourne Park, London, W.	X. <small>CON TENT</small>
LEWIS AND Co., Salopian Ironworks, Shrewsbury	XIII.
LEWIS, JNO., India Buildings, Halifax	V.
LEWIS, GEO. E., 32, 33, Lower Loveday Street, Birmingham	XVI.
LEWIS AND PEAT, 11, Mincing Lane, London	II. & III.
LICHTSHEINDE AND Co., 10, Upper Weymouth Street, London	V.
LIVESEY, HENRY, Green Bank, Blackburn	XIII.
LLOYD, EDWIN, Horticultural Works, Grantham	II.
LLOYD, ATTREE, AND SMITH, 32, Wood Street, Cheapside, London	V.
LOBB, JNO., 296, Regent Street, London	V.
LOCKETT, LEAKE, AND Co., Strangeways Engraving Works, Manchester	XIII.
LONDON MANURE COMPANY, 116, Fenchurch Street, London, E.C.	II.
LONDON STEREOSCOPIC AND PHOTOGRAPHIC COMPANY, Regent Street, London	XII.
LOSADA, J. R., 105, Regent Street, London	XIV.
LOTH, DR. J. T., 27, Rutland Street, Edinburgh	XXVI.
LOVEY, EDWARD, Ponsnooth, Perran-ar-worthal, Cornwall	II.
LUMLEY, H., 20, Bury Street, St. James', London	XVII.
LYONS, WILLIAM, Park Street, Manchester	XI.
LYLE, JNO., AND Co., 10, Fordnake Street, Glasgow	V.
MACCLESFIELD CHAMBER OF COMMERCE, Macclesfield	V.
MACDANIEL, C., AND Co., 343, Oxford Street, London	VII.
MANDER, BROTHERS, Varnish Works, Wolverhampton	III.
MARQUIS, BROTHERS, Bon-accord Engine Works, London Road, Glasgow	XIII.
MARSDEN, H. R., AND Co., Soho Foundry, Meadow Road, Leeds	XIII.

Name.	Address.	Group.
MARSHALL AND CO., Leeds	V.
MARSHALL, SONS, AND CO. (LIMITED), Gainsborough, Lincolnshire	XIII.A.
MARTIN, CLAUDE, 9, Great Winchester Street, London	XVII.
MASSEY, B. AND S., Openshaw Canal Ironworks, Manchester	XIII.
MATHEWS, J. AND CO., Hatton Garden Works, Liverpool	III.
MATHER AND PLATT, Salford Iron Works, Manchester	XIII.
MAYO, C., M.D., New University Club, St. James's, London	XVI.
M'CALL, JNO., 137, Houndsditch, London	IV.
McANDREWS AND CO., 24, North John Street, Liverpool	II.
McCOMBIE, JAS., AND CO., Peterhead	IV.
McGREGOR, J., AND SON, Dumfries, N.B.	IV.
McKAY, J., George Street, Edinburgh	IV.
McKEAN AND CO., 42, Borough Road, London	XIII.
McLACHLAN, LACHLAN, Manchester	XII.
McLEAN AND HOPE, Leith, N.B.	II.
McNAUGHT, J. AND W., St. George's Foundry, Rochdale	XIII.
MELLOR, JAMES, Macclesfield	V.
McNICOL, JOHN, 97, Buchanan Street, Glasgow	XI. & XIII.
MERRYWEATHER AND SONS, 63 Long Acre, London	XIII.
MEYERS AND DAVIES, 35, Southwark Street, London	II.
MIDDLEMORE, W., Holloway Head, Birmingham	VI.
MILBURN, WILLIAM, 7 Todd Street, Corporation Street, Manchester	XIII A.
MILNER, T., AND SON, Phoenix Works, Liverpool	VII.
MILWARD, H., AND SONS, Redditch, Worcestershire	VII.
MILWARD, J. & F., 91 Great Charles Street, Birmingham	VII.
MINNS, JAMES, Thorn Lane, Norwich	VIII.
MINIER, NASH, AND NASH, Strand, London	II.
MINTON, HOLLINS, AND CO., Stoke-upon-Trent	IX.
MINTONS, Stoke-upon-Trent	IX. & XXI.
MITCHELL, J., AND CO., Tweed Place Mills, Galashiels, N.B.	V.
MITCHELL BROTHERS, Waterfoot, near Manchester	V.
MOIR, J., AND SON, 56 Virginia Street, Aberdeen	IV.
MOND, LUDWIG, Farnworth, near Warrington	Addtl. Exhb'ns.
MORANT, BOYD, AND BLANFORD, 91 New Bond Street, London	VIII.
MOORE, E., AND CO., South Shields	IX.
MOORE, J. AND W., Salisbury	XIII.
MOORE AND WEINBERG, Belfast, Ireland, and Dundee, Scotland	V.
MORGAN AND CO., 128 and 129 Long Acre, London	XIII.
MORINI, CH. DE, 87 Newman Street, Oxford Street, London	XXIII.
MORLEY, I. AND R., 18 Wood Street, Cheapside, London	V.
MORTLOCK, JNO., 203 Oxford Street, London	XXI.
MORTON AND SONS, Kidderminster	V.
MOSELEY, ANDREW, 7 Trinity Place, Charing Cross, London	XVIII.
MOSER, H. AND R. J., New Road, Wandsworth Road, London	VII.
MOY AND SHILL (T. MOY), 1 Clifford's Inn, London	XIII.
MULLINER, H., Leamington Spa, Warwickshire	XIII.
MUNN, W. AUGUSTUS, Churchill House, Dover	II.
MURCOTT, THEOPHILUS, 68, Haymarket, London	VII.

Name.	Address.	Group.
MURRAY, G. WILSON, Banff, Banff Foundry, N.B. XIII.A.
MYERS, M., 12 Minorities, London II.
NAISH, OSBORN, AND EDEN, 21, 22, 23, Coleshill Street, Birmingham XIII.
NALDER AND NALDER (LIMITED), Challow Iron Works, Wantage, Berkshire XIII.A.
NEAVE, S., AND SONS, 7, Peel Street, Manchester V.
NEILSON, H., 7, Brunswick Street, Liverpool II.
NEVILL, LADY DOROTHY, Dangstein, Petersfield VIII.
NEVILE, REID, AND Co., Windsor, Berkshire IV.
NEW, D., AND Co., Moscow Works, Nottingham XIII.
NEWCASTLE CHEMICAL WORKS COMPANY, 4, Quay Side, Newcastle-on-Tyne III.
NEAL, JOHN, 44, 46, 48, Edgware Road, London VII.
NEWELL, C. J., Newtown, Montgomeryshire V.
NEWMAN, JAMES, 24, Soho Square, London XI.
NEWTON, GOUGH, AND Co., 26, Blackfriars Street, Manchester VI.
NEWTON, KEATS, AND Co., 28, King Street, Liverpool I.
NICHOLSON, J. O., Macclesfield V.
NICHOLSON, W. N., AND SON, Trent Iron Works, Newark XIII.A.
NICOLL, D. AND Co., 58 and 59, Paternoster Row, London III. & V.
NORMAN, S. W., 116, Westminster Bridge Road, London XIII.
NORRIS, S. E. AND Co., 56, High Street, Shadwell, London XIII.
NUSSEY AND PILLING, Park Works, Park Lane, Leeds XIII.
OCLEE, FREDERICK H., 31, New Bailey Street, Salford XIV.
OGDEN, THOMAS, AND Co., Werneth Iron Works Mill, Oldham V.
PACKARD, E. AND Co., Ipswich, Suffolk II.
PAGE, E. AND Co., Victoria Ironworks, Bedford XIII.A.
PALMER'S SHIPBUILDING Co., LIMITED, Jarrow-on-Tyne XVII.
PARKINGTON, J. R. AND Co., 24, Crutched Friars, London IV.
PARSONS, FLETCHER, AND Co., Gravel Lane, Southwark, London III.
PART, J. C., Derby IX.
PARTRIDGE AND Co., Lombard Street, Birmingham VII.
PASCALL, ATKEY, AND SON, Cowes, Isle of Wight VII.
PATENT GAS COMPANY (LIMITED), 25, Fenchurch Street, London XIII.
PATENT MACHINE STONE DRESSING COMPANY (W. PAYTON, Manager), 21, Great George Street, London XIII.
PATENT NUT AND BOLT COMPANY (LIMITED), London Works, Birmingham VII.
PATENT PLUMBAGO CRUCIBLE COMPANY, Battersea Works, London VII.
PATENT RIBAND TELEGRAPH POST COMPANY (LIMITED), Manchester XIV.
PATENT WATERPROOF PAPER AND CORRUGATED FIBRE COMPANY, Old Mill, Farnworth XI.
PATRY AND PASTEUR, 38, Mincing Lane, London II.
PATTERSON, W., AND SONS, Nottingham V.
PAVY'S PATENT FELTED FABRIC COMPANY, Portford Mills, Chilworth, Surrey V.
PEEK, FREAN, AND Co., Dockhead, Bermondsey, London IV.
PEEL BROTHERS, Bradford V.
PEARSON, F. G., AND Co., Hope Works, Furnace Hill, Sheffield VII.

Name.	Address.	Group.
PEARSON, S., AND Co., Macclesfield	V.
PEGLER, C., JUN., AND Co., 58, Briggate, Leeds	V.
PELLATT AND Co., Falcon Glass Works, Blackfriars, London	IX.
PELLATT AND WOOD, 25, Baker Street, London	XXI.
PENN, JOHN, AND SON, Greenwich	XIII.
PENNEY AND COMPANY (LIMITED), Lincoln	XIII A.
PERKINS, B., AND SONS, 141, Cannon Street, London	VII.
PEN-YR-ORSEDD SLATE QUARRY COMPANY, LIMITED (J. Ferguson, Agent), 8, Old Jewry, London, and Carnarvon, North Wales	XIII.
PETERS & SON, 53, Park Street, Grosvenor Square, London	XIII.
PEYTON AND PEYTON, Bordesley Works, Birmingham	VII.
PHILLIP, C. J., Birmingham	VII.
PICKERING, JONATHAN, Stockton-on-Tees	XIII A.
PICKERING, JOSEPH, Mowbray Street, Sheffield	III.
PIESSE AND LUBIN, 2, New Bond Street, London	II.
PIGALL, FRANZ, 22, Tichborne Street, London	VII.
PIGGOTT, T., AND Co., Spring Hill, Birmingham	XIII.
PILLISCHER, M., 88, New Bond Street, London	XIV.
PIM, BROTHERS, AND Co., William Street, Dublin	V.
PLATT, BROTHERS, AND Co. (LIMITED), Harford Iron Works, Oldham	XIII.
PLUNKETT, JNO., AND Co., 15, Portland Street West, Dublin	IV.
POLS, JNO. A., Nye's Wharf, Old Kent Road, London	III.
POOLE, H., AND Co., 36, 37, 38, 39, Savile Row, London	V.
PORTAL, W. S. AND R., Laverstoke Mills, Micheldever, Hants	XI.
POSSELT, PETERS, AND Co., City Road Mills, Derby	V.
POTTS, WRIGHT, AND Co., Macclesfield	V.
POWIS, CHARLES, AND Co., Cyclops Works, Milwall Pier, London	XIII.
POWIS, JAMES, WESTERN, AND Co., Victoria Works, Belvedere Road, Lambeth, London	XIII.
PRICE, W. R., 10A, King's Arms Yard, Moorgate Street, London	VI.
PRICE'S PATENT CANDLE COMPANY (LIMITED), Belmont Works, Battersea, London	III.
PROSSER AND WARD, 3, Featherstone Buildings, High Holborn, London	XIII.
PULVERMACHER, J. L., 168, Regent Street, London	XIV.
RABBITS, WM., St. Thomas's Works, White's Ground, Bermondsey	VI.
RABONE, J. AND SON, Whitmore Street, Hockley, Birmingham	XIV.
RADCLYFFE, DICK, AND Co., 129, High Holborn, London	II.
RANSOMES, SIMS, AND HEAD, Orwell Works, Ipswich	XIII A.
RANSOME, A., AND Co., 304, King's Road, Chelsea, London	XIII.
RATCLIFF AND TYLER, 76, New John Street, Aston Road, Birmingham	VII.
RAYNBIRD, CALDECOTT, BAWTREE, DOWLING AND Co. (LIMITED), Basingstoke, Hampshire	II.
READING IRONWORKS COMPANY (LIMITED), Reading, Berkshire	XIII & XIII A.
REDMAN, JNO. B., 25, Great George Street, Westminster, London	XVIII.
REED, E. J., C.B., Earle's Shipbuilding Co., Hull	XVII.
REED, AND FOX, 4, Fann Street, Aldersgate Street, London	XII.
REID, BENJ., AND Co., Bon Accord Works, Aberdeen	XIII A.
REIN, C. F., AND SON, 108, Strand, London	XIV.
REIN, MRS. C. F., 108, Strand, London	XIV.

CATALOGUE OF THE BRITISH SECTION.

Name.	Address.	Group.
RELIGIOUS TRACT SOCIETY, 56, Paternoster Row, London..	XII.
RICHMOND AND CHANDLER, Salford, Manchester	XIIIA.
RICKARDS, CHAS. A., Bell Busk Mills, near Leeds	V.
RIMMEL, EUGENE, 96, Strand, London	III.
ROBERTS, J. AND SONS, West of England Carriage Works, Bridgewater	XIII.
ROBUR DISTILLERY COMPANY, LIMITED, Camden Town Station, London	IV.
ROYAL BRITISH COMMISSION FOR THE VIENNA UNIVERSAL EXHIBITION		
OF 1873, 41, Parliament Street, Westminster, London ..	.. .. Addtl. Exhib'ions.	
ROBEY AND CO. (LIMITED), Perseverance Ironworks, Lincoln	XIIIA.
ROBINSON, H. P., AND CHERRILL, N. K., Tunbridge Wells	XII.
ROBINSON, T., AND SON, Railway Works, Rochdale; and 84, Cannon Street, London	XIII.
ROBINSON, VINCENT, AND Co., 38, Welbeck Street, Cavendish Square, London	V.
ROSE & WILSON, 31, Threadneedle Street, London	II. III.
ROWE, ELLEN ROSA, 1, Union Crescent, Margate	XXI.
ROWLAND, A., AND SONS, 10, Hatton Garden, London	III.
ROYAL PORCELAIN WORKS, Worcester	XXI.
RUNCORN SOAP AND ALKALI WORKS COMPANY, Runcorn	III.
RUNDELL, J. B., 34A, Pembroke Square, Kensington, London	XXVI.
RUSSELL, JAS., AND SONS, Crown Tube Works, Wednesbury	VII.
RUSTON, PROCTOR, AND Co., Sheath Ironworks, Lincoln	XIIIA.
SAGE, FREDERICK, 80 to 84, Gray's Inn Road, London	VIII. X.
SALOMONS, LEOPOLD AND Co., 9, Friday Street, London	V.
SALT AND SON, 21, Bull Street, Birmingham	XIV.
SALTER, HENRY, 11, Pancras Lane, Queen Street, London	XIII.
SAMUELSON AND Co., Britannia Works, Banbury, Oxford	XIIIA.
SAMUELSON, E., Liverpool	II.
SANDERS, H. G., Albany Works, Little Albany Street, Regent's Park, London	VII.
SANDERSON, A., AND Co., Albert Dock Colour Works, Hull	III.
SANDERSON, BROTHERS, & Co. (LIMITED), Sheffield	VII.
SANGSTER & Co., 140, Regent Street, London	X.
SAUNDERS, T. H., Dartford, Kent	XI.
SAXBY AND FARMER, Canterbury Road, Kilburn, London	XVIII.
SCARBOROUGH, BROTHERS, Trafalgar Works, Halifax	V.
SCHLETTER AND Co., Birmingham..	.. .. VI., VII., and X.	
SCIENCE AND ART DEPARTMENT OF THE COMMITTEE OF COUNCIL ON		
EDUCATION, South Kensington Museum, London	XXII.
SCOTT, W., AND SON, Kingholme Mills, Troqueer, Nithsdale, N.B.	V.
SCOTT, MAJOR-GEN., C.B., Ealing, London	III. IX.
SCOTT, GEO. L., Crown Tube Works, Heywood Street, West Gorton, Manchester..	XIII.
SHAND, MASON, AND Co., 75, Upper Ground Street, Blackfriars, London	XIII.
SHANKS, F. AND R., 70 & 71, Great Queen Street, London	XIII.
SHARP, STEWART, & Co., Atlas Works, Manchester	XIII.
SHAW AND FISHER, 43, Suffolk Road, Sheffield	VII.
SIBREE, PETER, River Head Foundry, Great Driffield, Yorkshire	XIII.
SIEBE AND GORMAN, 5, Denmark Street, Soho, London	XVIII.
SIEMENS, BROTHERS, 3, Great George Street, Westminster, London	XIV.
SIEMENS, C. W., C.E., 3, Great George Street, Westminster, London	I.

Name.	Address.	Group.
SILICATED CARBON FILTER Co.,	Church Road, Battersea	XXI.
SIMMONDS, PETER LUND,	29, Cheapside, London	Ad. Exh.
SIMON, H., C.E.,	7, St. Peter's Square, Manchester	XIII.
SIMON, MAY AND Co.,	Nottingham	V. & VI.
SIMPSON, W. B., AND Co.,	445, West Strand, London	IX.
SINGLEHURST, R. AND Co.,	11, Red Cross Street, Liverpool	II. & IV.
SISSONS, BROTHERS,	Sculcoates, Hull	III.
SIVEL AND WALTER,	121, Patrick Street, Cork	XIV.
SKELTON, T. A.,	37, Essex Street, Strand, London	XVIII.
SLATER, BUCKINGHAM, & Co.,	35, 36, Wood Street, Cheapside, London	V.
SMALE, JOSIAH, AND SONS,	Macclesfield	V.
SMALE, WILLIAM,	Macclesfield	V.
SMITH AND TURNER,	50, Bartholomew Close, London	VII.
SMITH AND WRIGHT,	Birmingham	X.
SMITH, F. AND Co.,	Caledonian Works, Halifax, Yorkshire	VII.
SMITH, JOHN WRIGHT,	121, Belgrave Gate, Leicester	VII.
SMITH, R. M.,	Leith	II.
SMITH, R. AND Co.,	Porter Works, Sheffield	VII.
SMITH, T. H., AND Co.,	21, Duke Street, Edinburgh, and 12, Worship Street, London	III.
SMITH, WASTENEYS,	22, Grey Street, Newcastle-on-Tyne	XVII.
SMITH, GEORGE J.,	16, St. Aubyn's Road, Upper Norwood	V.
SMITH, J. K., AND Co.,	63, Vincent Street, Glasgow	VII.
SMITH, T. O.,	11, Grass Market, Edinburgh	III.
SMITH, WM.,	309, Regent Street, London	XII.
SMITH, W., JUNIOR,	Gillroyd Mills, Morley, near Leeds	V.
SMYTH, J., AND SONS,	Peasenhall, Suffolk	XIII A.
SMYTH AND Co.,	36, Lower Abbey Street, Dublin	V.
SOCIETY FOR IMPROVING THE CONDITION OF LABOURING CLASSES.		
(C. PAYNE, SEC.),	21, Exeter Hall, Strand, London	XVIII.
SOMMERVILLE AND SMITH,	34, Eagle Street, Red Lion Square, London	VIII.
SOPER, W.,	23, Friar Street, Reading	XVI.
SPEAR AND JACKSON,	Etna Works, Sheffield	VII.
SPENCE, J. BERGER AND Co.,	108, King Street, Manchester	III.
SPICE, R. P., C.E.,	21, Parliament Street, Westminster, London	XIII.
STADE, H. AND L.,	Duke Street, Bradford	V.
STAMP, E. B.,	29, High Street, Hampstead, London	III.
STEAD, BROTHERS,	11, Peter's Buildings, Liverpool	II.
STEINER, F., AND Co.,	Church, near Accrington	V.
STEPHENS, H. C.,	171, Aldersgate Street, London	III. & XI.
STERNE, LOUIS, AND Co.,	9, Victoria Chambers, London	XIII.
STEPHENSON, BLAKE, AND Co.,	Sheffield and London	XII.
STEWART, S. R., AND Co.,	Hutcheson Street, Aberdeen	X.
STRACHAN AND Co.,	Lodgemore Mills, Stroud	V.
STREETER, E. W.,	37, Conduit Street, Bond Street, London	XIV.
STRETTON AND Co.,	Bridgewater Place, Manchester	V.
STUBLEY, G. AND J.,	Batley, near Leeds	V.
SUMNER, J. M. AND Co.,	2, Brazenose Street, Manchester	XIII.
SUNDAY SCHOOL UNION,	56, Old Bailey, London	XII.

Name.	Address.	Group.
SUTTON AND SONS, Reading, Berkshire II.
SWAINE AND ADENEY, 185, Piccadilly, London VI. & X.
SWAINSON, BIRLEY AND Co., Preston, Lancashire V.
TALL AND Co. (LIMITED), 8, Lawson Street, Great Dover Street, London XVIII.
TANGYE BROTHERS AND HOLMAN, 10, Laurence Pountney Lane, London XIII.
TANNED LEATHER Co., The (Limited) Armit Works, Greenfield, near Manchester VI.
TAPLING, T., AND Co., 1 to 8, Gresham Street West, London V.
TAYLER, D. F., AND Co., New Hall Works, George Street, Birmingham VII.
TAYLER, HAYWARD, AND Co., Upper Whitecross Street, London XIII.
TAYLOR, R. MINTON, Fenton, near Stoke-upon-Trent IX.
TAYLOR, J. T. AND J., Blakeridge and Cheapside Mills, Batley V.
TAYLOR BROTHERS, Adelaide Works, Sheffield VII.
TEMPLETON, JAS., AND Co., Glasgow, Scotland V.
TEMPLETON, J., AND J. S., Glasgow, Scotland V.
THOMAS, W. J., 28, Old Bond Street, London VII.
THORN, C., St. Giles's Gates, Norwich XIII.
THWAITES AND CARBUTT, Vulcan Iron Works, Bradford XIII.
TICKLE, ROBT. P., 3, Poppin's Court, Fleet Street, London XIII.
TIN PLATE DECORATING COMPANY, Neath, Wales VII.
TOBIN, J. A., Water Street, Liverpool III.
TOMKINSON AND ADAM, Kidderminster V.
TURNER, A., AND Co., Bow Bridge Iron Works, Leicester VI.
TURNER, E. R., AND F., St. Peter's Iron Works, Ipswich XIII.A.
TURNER, WILLIAM, Carnarvon IX.
TWIBILL, JOSEPH, Chester Road, Manchester XIII.
TWYMAN, AARON, 25 Walbrook, London XVIII.
TWYMAN, C., 36, High Street, Ramsgate XII.
UNITE. J., 291, Edgeware Road, London VI.
UNIVERSAL PAINT COMPANY, Old Mill, Farnworth, Lancashire III.
VALENCIA SLATE SLAB COMPANY (LIMITED), Valencia, Ireland IX.
VAVASSEUR, J., AND Co., London Ordnance Works, Bear Lane, Southwark, London XVI.
"VICTORY" PRINTING AND FOLDING MACHINE MANUFACTURING COM- PANY, 1, North John Street, Liverpool XIII.
VYSE, SONS, AND Co., 76, Wood Street, London V.
WALKER, CAMPBELL, & Co., 59, Bridgewater Street, Liverpool VII.
WALKER FORGED SCREW AND BOLT COMPANY (LATE H. P. BOYD & Co., LIMITED), Newcastle-on-Tyne XVII.
WALKER, P., AND SON, 105, Duke Street, Liverpool IV.
WALKER, W., 119, Bunhill Row, London, E.C. VIII.
WALLIS AND STEEVENS, North Hants Iron Works, Basingstoke XIII.A.
WANE, MARSHALL, 4, Finch Road, Douglas, Isle of Man XII.
WANZER, R. M., AND Co., see Doubleday, Son, & Co. XIII.
WARBURG AND Co., 9, Lloyd Street, Manchester V.
WARD, J., 5 & 6, Leicester Square, London XIV.

INDUSTRIAL EXHIBITORS.

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Name.	Address.	Group.
WARD, HENRY, 2, Vere Street, Oxford Street, London	VIII.
WARD AND PAYNE, 114, West Street, Sheffield	VII.
WARD, EDWIN, Wigmore Street, London	VIII.
WARNE AND CO., 9, Gresham Street West, London	VI.
WARNER, J., AND SONS, 8, Crescent, Cripplegate, London	XIII.
WATERS, J. AND E., AND CO., Talbot Mills, Ellesmere Street, Hulme, Manchester	V.
WATKINS, ALFRED J., 20, Budge Row, London	III.
WATSON, HENRY, Highbridge Works, Newcastle-on-Tyne	XIII.
WATSON, BONTOR, AND CO., 35 & 36, Old Bond Street, London	V.
WATTS, J., AND CO., 6, Broad Weir, Bristol	VII.
WEBB AND SON, Combs Tannery, Stowmarket	VI. & XIII.
WEBLEY, P., AND SON, 82, 83, 84, Wenman Street, Birmingham	XVI.
WEBSTER, HENRY, Litchfield Street, Soho, London	XI.
WEBSTER, J., AND SON, Old Hall Mills, Gildersome, Leeds, Yorkshire	V.
WEDGWOOD, JOSIAH, AND SONS, Etruria, Stoke-on-Trent	IX.
WEDNESBURY TUBE WORKS, Wednesbury	VII.
WEETMAN, JNO., Ipswich, Suffolk	XIII.
WEICHART, WILLIAM, 119, Rothsay Terrace, Bute Docks, Cardiff	XIV.
WELCH, ALFRED, 11, Bank Buildings, Metropolitan Cattle Market, London	XIII.
WELCH, MARGETSON AND CO., 16, Cheapside, London	V.
WELSH SLATE COMPANY, 19, Spring Gardens, Charing Cross, London	IX.
WESTON, JOHN, 1, Basinghall-Street, London	XIII.
WHITE, JOHN, King Street, Stroud, Gloucestershire	XII.
WHITEHEAD, R. R., AND BROTHERS, 14, Hanover Street, Long Acre, London	V.
WHITELEY, WILLIAM, Westbourne Grove, London	VII.
WHITLEY, PARTNERS, Hunslet Road, Leeds, Yorkshire	XIII.
WHITWELL, THOMAS, Thornaby Iron Works, Stockton-on-Tees	I.
WIDNELL, HENRY, AND CO., Lasswade, near Edinburgh	V.
WIGAN AND CO., 2, Budge Row, London	Ad. Exhi.
WILKIN AND CLARK, 44, Finsbury Circus, London	Ad. Exhi.
WILKINSON, J., SON, AND CO., St. Helen's Mills, Leeds	V.
WILLANS, T. B., 19, Lawrence Lane, London	V.
WILLIAMS AND CO. (LIMITED), 1, City Road, London	XIII.
WILLIAMSON, W., 133, High Holborn, London	XIII.
WILLS, A. W., Park Mills, Nechells, Birmingham	VII.
WILLSHER, JNO. CHAPLIN, 40, Gracechurch Street, London	XIII.
WILSON, J. H., AND CO., Cornhill, Liverpool	XIII. & XVII.
WILSON HAWKSWORTH, ELLISON, AND CO., Carlisle Works, Sheffield	VII.
WINDOVER, C. S., 32 & 33, Long Acre, London	XIII.
WINFIELD, R. W., AND CO., Cambridge Street Works, Birmingham	VII.
WOOD AND IVERY, Albion Brick Works, West Bromwich, Staffordshire	IX.
WOODFIELD, W., AND SONS, Easemore Works, Redditch	VII.
WOODHAMS, MACQUEEN, AND JOHNSON, Hope's Carr, Stockport	V.
WOODS, COCKSEGE, AND WARNER, Suffolk Iron Works, Stowmarket	XIII.
WOODWARD, GROSVENOR, AND CO., Stour Vale Mills, Kidderminster	V.
WORSSAM, S., AND CO., Oakley Works, King's Road, Chelsea, London	XIII.
WORTLEY, COLONEL STUART, Rosslyn House, Grove End Road, London	XII.
WOULDHAM CEMENT COMPANY, Wouldham, near Rochester, Kent	IX.

Name.	Address.	Group.
WRIGHT, FREEMAN, Needham Market, Suffolk	III.
WRIGHT, SUTCLIFFE, AND SON, Halifax, Yorkshire	XVIII.
WYNDHAM, F., AND CO., 37, Eastcheap, London	IV.
WYON, J. S. AND A. B., 287, Regent Street, London	XII.
YATES, HAYWOOD, AND CO., 95, Upper Thames Street, London, and Effingham Works, Rotherham	VII.
YOUNGER, W., AND CO., Edinburgh, Scotland, and Belvedere Road, London	IV.
YUILLE, ANDREW, 132 Irongate, Glasgow, Scotland	IV.
ZAEHNSDORF, J., Catherine Street, Strand, London	XI.
ZIMDARS, C.E., 28, Red Lion Square, London, E.C.	XVIII.
ZOSSENHEIM, BROTHERS, Huddersfield and Leeds	V.

NOTE.—The figures inserted after the Catalogue entries represent the British Rotation Numbers of the Exhibitors. The Austrian Official Numbers will be added in the next edition.

GROUP I.

Mining, Quarrying, and Metallurgy.

MINERAL FUELS (Coals, Shales, and Mineral Oils). MINERAL ORES AND METALS. OTHER MINERALS (as Salt, Sulphur, Graphite, &c.); not including Building Materials; *vide* Group 18. NATURAL ALLOYS. DRAWINGS AND MODELS OF OBJECTS RELATING TO MINING, METALLURGY, AND MINERAL INDUSTRY, MINING ENGINEERING, SURVEYING AND MAP MAKING. GEOLOGICAL WORKS, AND GEOLOGICAL MAPS, &c. TOOLS AND INVENTIONS FOR MINING AND METALLURGY—FOR UNDERGROUND AND SURFACE WORK.

INSOLE, G., & SON, *Cardiff, Wales*.—Coals—Merthyr Smokeless Steam Coal, Abergorki Locomotive Steam Coal, Low Main Smelting and Coking Coal; Foundry and Smelting Coke; Fossils and Fractures from the Steam Coal Seam. (1)

CWMAMAN COAL COMPANY (per Palmer, Hall, and Company), *Newcastle-on-Tyne*; and *Cardiff, Wales*.—Section of Upper Four Foot Seam Coal from Aberdare Colliery. (2)

BROAD, W., *Woodlane Terrace, Falmouth*.—Mineralogical specimens from Cornwall; Plans and Drawings, and Works on the Mineralogy of Cornwall and Devonshire, and on Mining and Quarrying. (3)

WHITWELL, THOMAS, *Stockton-on-Tees*.—Drawings and Models of Patent Hot Blast Fire Brick Stoves; Blast Furnace; Apparatus for Utilization of Blast Furnace Gases; Whitwell's Regenerators for Smelting Copper, Lead, and Zinc, and for other Metallurgical operations producing

fumes; Bessemer, Charcoal, and other Pig Iron produced by furnaces with Whitwell's Fire Brick Stoves. (5)

(*See Appendix.*)

SIEMENS, C. WILLIAM, C.E., F.R.S., D.C.L., 3, *Great George Street, Westminster*.—Models of Furnaces and Apparatus for the direct production of Iron and Steel from the Ore, by the Siemens Process; with specimens of Iron and Steel made by this process, and the Materials employed in their production. (4)

EATON, R., 24, *Old Square, Lincoln's Inn, London*.—Model of a Coal Mine. (321)

CLAYTON, SON & HOWLETT, *Atlas Works, Woodfield Road, Harrow Road, London*.—Patent Condensed Peat (324)

MCCRAW, E. C., & COMPANY, *Royal Salt Works, Winsford, Cheshire*.—Salt in various forms. (18)

GROUP II.

Agriculture, Horticulture, and Forestry.

PLANTS FOR FOOD AND PHYSIC (excluding Fresh Fruits and Vegetables which are to be the subject of temporary exhibitions). TOBACCO AND OTHER NARCOTIC PLANTS. VEGETABLE FIBRE (as Cotton, Flax, Hemp, Jute, China Grass, &c.); and other Plants of Commerce in their raw state. COCOONS OF SILK WORMS. ANIMAL PRODUCTS IN A RAW STATE (Skins, Hides, Feathers, Bristles, &c.). WOOL. PRODUCTS OF FORESTRY (Timber, Wood for Cabinet Work, Tanning Substances, Resin in a raw state, Dyeing Woods, Barks, Charcoal Tinder). PEAT AND ITS PRODUCTS. MANURES. DRAWINGS AND MODELS OF OBJECTS USED IN AGRICULTURE, HORTICULTURE, AND FORESTRY; FARM MAPS. WORKS OF THE EXPERIMENTAL STATIONS, WOODLAND AND FOREST DOOM BOOKS, STATICS OF FORESTS, &c. PROCESSES AND INVENTIONS FOR PRODUCING, TRANSPORTING, AND STORING THE ABOVE-MENTIONED PRODUCTS. PLANS OF GARDENS, DRAWINGS AND MODELS OF HORTICULTURAL IMPLEMENTS, HOT-HOUSES, CONSERVATORIES, IRRIGATION, &c. NEW METHODS OF HORTICULTURAL CULTIVATION.

(*Vide* Temporary Exhibitions, No. 4.)

SUTTON & SONS (the Queen's Seedsmen), *Reading, Berkshire*.—Agricultural and Horticultural Seeds; Dried Specimens of Grasses, Cereals and other Plants, cultivated in England; Models of Roots, &c. (6)

(*See Appendix.*)

CARTER, DUNNETT & BEALE, 237 and 238, *High Holborn, London*.—Models (natural size and coloured) of all the leading roots and plants in cultivation in the United Kingdom in profitable agriculture; Specimens of Agricultural Seeds and Plants; Growing examples of Grass Seed for pastures, towns, &c., and collection of specimens grown under sewage irrigation from exhibitors' seeds, in the Romford Sewage Farm of W. Hope, Esq. (7)

(*See Appendix.*)

RAYNBIRD, CALDECOTT, BAWTREE, DOWLING & COMPANY (LIMITED), *Basingstoke*.—Seed Corn, Grass, and other Agricultural Seeds, with Descriptive Catalogue. (8)

RADCLYFFE, DICK, & COMPANY, 129, *High Holborn, London*.—Seeds; Garden Tools and Implements; Fern Cases; Horticultural Decorations. (761)

LOVEY, EDWARD, *Ponsnooth, Perran-ar-worthal, Cornwall*.—Beehives. (10)

MUNN, MAJOR W. AUG., *Churchill House, Dover*.—Beehive, called "Bar and Frame" Hive, or "Hive within Hive;" sheltering the Bees from cold and wet, and providing easy means of hiving swarms, and removing Combs and Bees. (792)

LONDON MANURE COMPANY, 116, *Fenchurch Street, London*.—Manures and the materials used in their manufacture—Peruvian, Mexican, and Curaco Guano; Phosphates and Superphosphates of Lime; Ammoniacal Manures; Blood Manure; Coprolites and Pseudo-Coprolites; Bone Ash and Dissolved Bone; Turnip and other special manures. (11)

PACKARD, E., & COMPANY, *Ipswich, Suffolk*; *London Office: 155, Fenchurch Street*.—Artificial Manures, Phosphates of Lime, &c., from which they are made; Drawings and Photographs of exhibitors' works, and Models of Machinery. (12)

GIBBS, JAMES, & COMPANY, 16, *Mark Lane, London*; Works: *London, Plymouth, Newport, and Bristol*.—Patent Ammonia-fixed Guano; Chemical Manures and their constituents; Sulphuric Acid, &c. (13)

(See Appendix.)

FOWLER, GEORGE & THOMAS, 25, *Great Dover Street, London*.—Preparations for Destruction and Prevention of Insect Blights and Mildew on Plants, and of Parasites Infesting Man, Animals and Organic Materials; Phosphor Paste. (377)

LLOYD, E., *Grantham, Lincolnshire*.—Horticultural Structures; Drawings of

Iron Transportable Dwelling Houses for working men. (14)

(See Appendix.)

HUDSPITH, W., *South Tyne Works, Haltwhistle, Northumberland*.—Fern and Flower Stands of "Imperishable" Terracotta. (15)

DOWN & COMPANY, *Woburn, Bedfordshire*.—"Down's Farmers' Friend," for preventing the smut in wheat. (344)

SIMON, H., C.E., 7, *St. Peter's Square, Manchester*.—Paget's Patent Garden Pumps and Fire Engines. (541)

GROUP III.

Chemical Industry.

CHEMICAL PRODUCTS FOR TECHNICAL AND PHARMACEUTICAL PURPOSES (Acids, Salts, Chemical Preparations of all sorts). RAW SUBSTANCES AND PRODUCTS OF PHARMACY, MINERAL WATERS, &c. FATS AND THEIR PRODUCTS (Stearine, Oil, Acids, Glycerine, Soaps, Candles, and Tapers, &c.). PRODUCTS OF DRY DISTILLATION (as Refined Petroleum, Slate Oil, Paraffine, Phenyllic Acid, Benzoin, Aniline, &c.). ETHEREAL OILS AND PERFUMERIES. MATCHES, &c. DYE-STUFFS, MINERAL AND ORGANIC. RESINS (Washed, Dyed, or Bleached), SEALING-WAX, VARNISH, ALBUMEN, ISINGLASS, GLUE, STARCHES, DEXTRINE, &c. CONTRIVANCES AND PROCESSES USED IN CHEMICAL PRODUCTION. STATISTICS OF PRODUCTION.

SCOTT'S SEWAGE COMPANY, *Ealing, London*.—Dried Sewage Deposit, precipitated by means of lime from ordinary sewage water, prepared for calcination; calcined sewage deposit, tender burnt; the same burnt to Portland cement; the burnt sewage cements reduced to powder; the same cements set neat. (19)

FLEMING, A. B., & COMPANY, *Leith*.—Printing and Lithographic Inks,

Varnishes and Oils; Black Ink for Newspapers, Books and Commercial Forms; Coloured Ink for Fancy Printing and Lithography; Lamp and Vegetable Blacks; Vegetable Machinery Oil; Printed specimens. (20)

(See Appendix.)

CALVERT, F. C., & COMPANY, *Bradford, near Manchester*.—Acids—Carbolic, Rozalic, Picric, Cresylic; Dyes and

Colours derived from the above acids; Carbolic Soaps, Disinfecting Fluid and Powder, Sheepwash, &c. (21)

CORNELISSEN & TALLE, 22, *Great Queen Street, London*.—Printing Ink and Varnishes; Colours for Chromo-Lithography and general Lithographic Materials. (22)

DENTON & JUTSUM, 8, *New Broad Street, London*.—Varnishes, Colours, Gums, Oils, and Greases. (23)

GRANGER, JOHN, *Hood Street Works, Birmingham*.—Concentrated Marking Inks. (24)

BORWICK, G., & SONS, 24, *Chiswell Street, London*.—Knife Powder. (70)

PICKERING, JOSEPH, *Mowbray Street, Sheffield*.—Plate Powder, Polishing Paste, Furniture Polish, Harness Blacking, Razor-strop Paste, and Knife Powder. (25)
(See Appendix.)

HICKISSON, M. A., 75, *Southgate Road, London*.—Marking Inks, and Appliances for their use. (26)
(See Appendix.)

HUTCHINSON, JOHN, & COMPANY, *Widnes, Lancashire*.—Chemical Products of Alkali Manufacture—Soda, Caustic Soda, Sulphur, recovered from Alkali waste and Bleaching Powder. (27)

JOHNSON, MATTHEY & COMPANY, *Hatton Garden, London*.—Platinum Refining Boilers, Sulphuric Acid Apparatus, Crucibles, Assay Apparatus, Syphons, and Condensing Coils; Measures and Weights in Iridio-Platinum for international use; Mineral Platinum, Palladium, Iridium, &c. (28)
(See Appendix.)

CLARKE, G. B., *Woburn*.—Sheep Dipping Composition; Wheat Protector for preserving seed wheat from Smut and Insects. (29)

DINNEFORD & COMPANY, 172, *New Bond Street, London*.—Magnesia, Fluid Magnesia, Salts of Magnesia, Granules, and other Pharmaceutical Preparations. (30)

NEWCASTLE CHEMICAL WORKS COMPANY (LIMITED), *The, Newcastle-on-Tyne*.—Bicarbonate of Soda, Refined and Unrefined Alkali, Bleaching Powder, Soda Crystals, Caustic Soda, and Chloride of Calcium. (31)

SMITH, T. & H., & COMPANY, 21, *Duke Street, Edinburgh*, and 12, *Worship Street, London*.—Chemical Products and Pharmaceutical Preparations; Morphine, Codeine, Cryptopia, and all Principles of Opium; Chloroform, Cantharidine, Aloine, Alkaloids, Pure Resins, Bromide of Potash, &c. (32)

CROY, ANDREW, 58, *North Hanover Street, Glasgow*.—Non-conducting Cement. (786)

WILKIN & CLARK, 44, *Finsbury Circus, London*.—Bichromate of Potash, with the chrome ore from which it is made. (33)

WATKINS, A. T., 20, *Budge Row, London*.—Washing Fluid, called "Pankatharon," to supersede soap and soda. (34)

BUSH, W. J., & COMPANY, 21 and 22, *Artillery Lane, Bishopsgate Street, London*.—Fruit Essences, Essential Oils, Quintessences for culinary purposes, Harmless Vegetable Colours for Confectionery, Effervescent Citrate of Magnesia, and other granular preparations. (35)

DUNCAN, FLOCKHART & COMPANY, 52, *North Bridge, Edinburgh*.—Chloroform; Medicated Pessaries, Suppositories, and Bougies; White Gutta-percha for Stopping Teeth. (36)

CARSON, W., & SONS, *Belle Sauvage Yard, Ludgate Hill, London*.—Paint—Anticorrosive Paint for Iron Work, Porous Stone, Brick, and Wood; Improved Paint Pot. (37)

ALEXANDER, RICHARD, 23, *St. James's Square, Edinburgh*.—Furniture Polish. (38)

JACKSON, T. S., 199, *High Street, Southwark, London*.—Wood Stains, with Specimens of Stained Woods. (806)

SPENCE, J., BERGER, & COMPANY, *London, Manchester, and Glasgow*.—Phosphate of Alumina; Tribasic Phosphate of Ammonia; Ammoniate Phosphate Manure, and Alum. (762)

RUNCORN SOAP AND ALKALI COMPANY, *Runcorn*.—Soap, Alkali, Refined and Carbonated Soda Ash; Refined Rosin, Bleaching Powder, Soda Crystals, Sulphate of Soda. (763)

(See Appendix.)

STEPHENS, H. C., 171, *Aldersgate Street, London*.—Wood Staining Fluids. (399)

UNIVERSAL PAINT COMPANY, *Oldmole, Farnworth, near Widnes, Lancashire*.—Paints. (5)

COOPER, W. T., 26, *Oxford Street, London*.—Effervescing Lozenges. (16)

BRITISH SEAWEED COMPANY, *Whitecrook Chemical Works, Dalmuir, Glasgow*.—Chemical Products from Seaweed obtained by Stanford's Patent Process; Products obtained by means of Stanford's Patent Carbon System from House Refuse and Town Sewage. (39)

(See Appendix.)

BELL, J., & COMPANY, 338, *Oxford Street, London*.—Pharmaceutical Preparations, consisting of Extracts, Juices, Fluid Extracts, Oils, and Granular Salts. (40)

CANTRELL & COCHRANE, 25, *Bank Street, Belfast*.—Aërated Beverages. (793)

COHNE, S., & COMPANY, (per H. C. Haddon), 62, *Falmouth Road, London*.—Chemical Disinfecting Soap. (41)

FIELD, J. C. & J., *Upper Marsh, Lambeth, London*.—Sealing Wax; Wax and Sperm Candles; Composition Candles; Ozokerit, crude and refined; Ozokerit and Paraffine Candles; Wax and Stearine Tapers, and Toilet Soaps. (42)

(See Appendix.)

CLARKE, Rev. JAMES LANGTON. *The Common, Ealing, near London*.—"Lychnophylax," an improved method of, and apparatus for, preventing candles from guttering. (Exhibited by J. C. & J. Field, sole Agents for Great Britain and Austria.) (42*)

POLS, J. A., *Nye's Wharf, Old Kent Road, London*.—Refined Nut, Seed, Fish, and Animal Oils, free from Acid; Cotton Seed, raw as imported from Egypt; Cleansed and Ground Nuts. (44)

PRICE'S PATENT CANDLE COMPANY (LIMITED), *Belmont Works, Battersea, London*.—Candles, Night Lights, Oils, Perfumed Soaps; Paraffine, Stearine, Glycerine; Liquid Oils for use on Machinery, and for oiling Wool. (45)

YOUNG'S PARAFFINE LIGHT AND MINERAL OIL COMPANY.—69, *St. George's Place, Glasgow*.—Shale Mineral Oils for Burning and Lubricating; Candles, Paraffine, crude and refined; Sulphate of Ammonia; Sulphuric Acid; Paraffine Oil Lamps. (46)

ATKINSON, J. & E., 24, *Old Bond Street, London*.—Perfumes, Fancy Soaps, Toilet Powders; Preparations for the Hair, Skin and Teeth; Toilet Requisites and Perfumeries of every description; Ivory and Tortoiseshell goods. (47)

PIESSE & LUBIN, 2, *New Bond Street, London*.—Ethereal Oils, Perfumery, Commercial Products of Flowers, Transferred Odours, and Fumigants; the "Odophone," or Gamut of Odours. (48)

RIMMEL, EUGÈNE, 96, *Strand, London*.—Perfumery, Fancy Soaps, &c. (50)

STAMP, E. B., 29, *High Street, Hampstead, London*.—Myrrhine Tooth-Paste; Dentrifices, various; "Véritable Vinaigre Anglais de Stamp;" Styptic Paper; Essential Salt of Celery. (51)

ROWLAND, A., & SONS, 20, *Hatton Garden, London*.—Macassar Oil, for the hair; Kalydor, for the complexion; Odonto Tooth Powder. (52)

CROWN PERFUMERY COMPANY 40, *Strand, London*.—Perfumes; Toilet Soap and Toilet Requisites. (53)

BRYANT & MAY, *Fairfield Works, Bow, London*.—Safety Wood and Wax Matches; Match Holders, Cigar Lights, Coloured Tapers, &c. (54)

SMITH, T. O., 11, *Grass Market, Edinburgh*.—Liquid Blue, for clearing and beautifying cotton and linen after washing. (55)

(See Appendix.)

BEWICKE, D., & COMPANY, *Wallace Road, Hackney Road, London*.—Varnishes, Pigments; Lithographic, Letterpress, and Copperplate Printing Inks; Endorsement Ink; Boiled Oils, &c. (56)

COLMAN, J. & J., 108, *Cannon Street, London*.—Starch and Starch Products made from Rice; Blues. (57)

GREEN, J., 12, *Graham Terrace, Ridley Road, Kingsland, London*.—Gelatine in Sheets, prepared for tracing, for artificial flowers, &c.; Wrappers for Bonbons, Confections, &c. (58)

JONES, ORLANDO, & COMPANY, *York Road, Battersea, London*.—Starch made from Rice. (43)

MANDER BROTHERS, *Wolverhampton*.—Varnishes, with the Gums used in their manufacture, and specimens of Varnished Work. (59)

PARSONS, FLETCHER & COMPANY, *Gravel Lane, Southwark, London*.—Indian Starch. (60)

SANDERSON, A., & COMPANY, *Hull*.—Painters' Colours and Varnishes. (61)

NICOLL, D., & COMPANY, 58, *Paternoster Row, London*.—Uninflammable Starch—Ladies' Muslin Dresses, Mosquito Net, Muslin Window Curtains, Cotton Prints, Timber, Laths, Flooring and Partitions rendered fireproof. (62)

SISSONS BROTHERS & COMPANY, *Sculcoates, Hull*.—Varnishes for Railway and other Carriages and Painters, with Gums from which they are made; and Drying Oils. (63)

WRIGHT, FREEMAN, *Needham Market*.—Glue for Cabinet Makers and Carpenters, known as "Crown Glue," with specimens of the Waste Hides, &c., from which it is made, and examples of its application. (64)

BERGER, SAMUEL, & COMPANY, *Bromley-by-Bow, London*.—Rice Starch; Improved Patent Rice Starch in powder; Air-dried Starch; samples of the Rice used in the manufacture, and of gluten and fibre derived from it. (65)

ADAMS, JOHN, *Victoria Park, Sheffield*.—Furniture Polish, Plate Powder, Brass Polish. Citrate of Magnesia. (66)
(See Appendix.)

HEMINGWAY, S., & COMPANY, *Bradford*.—Baking Powder, Dry Soap, and Starch. (764)
(See Appendix.)

JAMES, E., & SONS, *Sutton Road, Plymouth*.—Starch for domestic and manufacturing purposes; Blacklead for domestic use. (67)

BEWLAY & DRAPER, 23, *St. Mary Street, Dublin*.—Aërated Waters as Beverages and in Imitation of Natural Mineral Waters; Soda, Seltzer, Kali, and Lithia Waters; Lemonade, Ginger Beer, and Ginger Ale. (342)

GROUP IV.

Substances of Food as Products of Industry.

FLOUR AND OTHER FARINACEOUS PRODUCTS, MALT AND ITS PRODUCTS. SUGAR AND ITS PRODUCTS SPIRITS AND SPIRITUOUS LIQUORS, &c. WINES. ALE, BEER, PORTER, &c. VINEGARS. PRESERVES AND EXTRACTS (Extracts of Meat, Portable Soup, Condensed Milk, Erbswurst Preserved Vegetables, Preserved Meat, &c.) TOBACCO AND SIMILAR MANUFACTURES. CONFECTIONERY, GINGER-BREAD, CHOCOLATE, COFFEE SUBSTITUTES, &c. PROCESSES AND INVENTIONS FOR PREPARING ALL THESE ARTICLES. STATISTICS OF PRODUCTION.

COLMAN, J. & J., 108, *Cannon Street, London*.—Mustard; Corn Flour made from Rice. (57)

BORWICK, G., & SONS, 24, *Chiswell Street, London*.—Baking Powder, Custard Powder, Spices. (70)
(See Appendix.)

KEILLER, JAMES, & SON, *Dundee*.—Confections, Preserves, Candied Peel, and Marmalade. (765)

MCGREGOR, JAMES, & SON, *Dumfries*.—Confectionery and Preserves. (766)

DUNVILLE & COMPANY, *Royal Irish Distilleries, Belfast, Ireland; and Beaufort Buildings, Strand, London*.—Matured Old Irish Whiskey. (71)

ROBUR DISTILLERY COMPANY, *Camden Town Station, London*.—Spirit called "Robur," containing Alcohol, Tannin, Theine, tonic and flavouring principles, Sugar and Water; entirely free from fusil or essential oil or acidity; Robur liqueur; distilled and compounded in 1873. (72)

PARKINGTON, J. R., & COMPANY, 24, *Crutched Friars, London*.—Champagne produced by Roper, Frères & Cie., "Carte Blanche," at 26 frs. per dozen; "Lion d'Or," at 35 frs. per dozen. James Anderson & Co.'s Champagne at 60s., and extra quality ditto at 77s. per dozen. (17)

WYNDHAM, F., & COMPANY, 37, *Eastcheap, London*.—"Esprit des Œufs." (343)

HENLEY & SON, *Joiner Street, Southwark, London*.—Devonshire Cider, Herefordshire Perry, and London Vinegar. (73)

YOUNGER, WM., & COMPANY, *Belvedere Road, London*.—India Pale Ale, strong Edinburgh Ale, and Extra Stout, in bottles. (74)

(See Appendix.)

BARNARD, W., *Sawbridgeworth, Hertfordshire*.—Malt, Pale and Brown. (75)

ANGLO-BAVARIAN BREWING COMPANY, *Shepton-Mallet, Somersetshire*.—Light family Ale, export Pale Ale, and strong Ale, in cask; bottled Ale, for home consumption and exportation. (76)

NEVILLE REID & COMPANY, *Brewery, Windsor*.—Ale and Stout. (767)

GARTON, RUSSELL & COMPANY, *Laurence Hill, Bristol*.—Ale and Beer. (768)

WALKER, P., & SON, 105, *Duke Street, Liverpool*.—Monro & Co.'s "Falstaff" Strong Mild Ale. (341)

CLARKE, G. B., *Woburn*.—Woburn Sauce. (29)

CROSSE & BLACKWELL, *Soho Square, London*.—Pickles, Sauces, Vinegar; Jams, Jellies, Marmalade; Preserved Fruits, Preserved Meat, Fish, Soup, Vegetables, &c. (77)

GOODALL, BACKHOUSE & COMPANY, *Boar Lane, Leeds*.—Yorkshire Relish; Orange Quinine Wine; Table-Salt, and Baking Powder. (78)

(See Appendix.)

MCCALL, JOHN, & COMPANY, *Houndsditch, London*.—Preserved Meat from Australia and South America; Preserved Fish from North America. (79)

MOIR, JOHN, & SON, 56, *Virginia Street, Aberdeen, Scotland, and 14, Commercial Street, London*.—Preserved Provisions—Meats, Soups, Fish, Jams, Jellies, Marmalades, Pickles, Sauces, and Fruits. (80)

(See Appendix.)

BATTY & COMPANY, 15 and 16, *Pavement, Finsbury, London*.—Pickles, Sauces, Jellies, Marmalade, Olives, Spices, Mustard, Currie Powder, Anchovies, Cambridge Pork Sausages, Christmas Plum Pudding, Mincemeat, and Preserved Provisions. (81)

HEWITSON & COMPANY, 17, *Harp Lane, Great Tower Street, London*.—Patent Solid Pea Soup, and Beef Fat prepared without salt. (83)

ENGLISH CONDENSED MILK COMPANY, 96, *Leadenhall Street, London*.—"Aylesbury" Condensed Milk, and preparations of the same with Cocoa, Chocolate, and Coffee; "Aylesbury" Essence of Coffee. (84)

ALEXANDER, RICHARD, 23, *St. James's, Edinburgh*.—Chutney; Currie Powder and Sauce. (38)

MCCOMBIE, J., & COMPANY, *Peterhead*.—Cured Herrings; Cod Liver Oil; Curriers' Fish Oil. (770)

GEYELIN & COMPANY, *Belgrave House, Argyle Square, London*.—Concentrated Food, exhibited for portability and economy. (771)

MACKAY, JOHN, 119, *George Street, Edinburgh*.—Flavouring Essences and other preparations for domestic purposes, and Articles of Diet for invalid and table use, &c. (92)

KING, FREDERICK, & SON, 140, *Leadenhall Street, London*.—Potatoes, preserved as for the British Navy; Patent Dessicated Soup, Beef, and Vegetables, reduced to one-thirteenth of their original bulk. (323)

GRUNEBAUM, J., 31, *Sackville Street, London*.—Havannah Cigars. (85)

FRY, J. S., & SONS, 12, *Union Street, Bristol*.—Chocolate and Cocoa. (86)

HUNTLEY & PALMERS, 9, *Rood Lane, London, and Reading*.—Biscuits, plain and fancy, manufactured by improved steam machinery. (87)

(See Appendix.)

YUILLE, ANDREW, *Glasgow*.—Essences of Coffee, pure; of Coffee and Chicory, Coffee and Cocoa, Chicory, Coffee with Milk and Sugar; Essences for flavouring; Extracts of Celery, Shallots, Orange and Lemon Peel, Ratafia, Cinnamon, Cochineal, Vanilla, Garlic, Sage and Thyme. (88)

PEEK, FREAN & COMPANY, *London*.—Fancy Biscuits. (89)

BROTCHIE, R., & COMPANY, *Leith*.—Chicory, raw and in various stages of manufacture. (49)

PLUNKETT, JOHN, & COMPANY, *Portland Works, Portland Street, Dublin*.—Pale Malt for brewing Ale and Porter; Patent Roasted Malt, for colouring and flavouring Ale and Porter. (90)

GROUP V.

Textile Industry and Clothing.

WASHED WOOL AND HAIR USED FOR TEXTILE FABRICS, CARDED WOOL AND WORSTED, COMBED WOOL AND WOOLLEN FABRICS, FELT CARPETS, BLANKETS, HAIR TISSUES, MIXED FABRICS, INCLUDING SHAWLS. COTTON, COTTON SUBSTITUTES, COTTON THREAD, COTTON FABRICS, AND CORDS. FLAX, HEMP, JUTE, AND OTHER FIBRES, YARNS, THREADS, AND FABRICS OF THE SAME, STRAW FABRICS FOR BONNETS, SCREENS, AND MATS, WEBS AND CORDS OF REED, CANE, BASS, HAIR, WIRE, &c. RAW SILK, SPUN SILK, AND MANUFACTURES OF SILK, SILK WASTES. SMALL WARE MANUFACTURES, GOLD AND SILVER CLOTHS AND EMBROIDERIES. LACE. HOSIERY, MILLED AND UNMILLED. FINISHED OBJECTS OF CLOTHING (Clothes, Gowns, Hats, Bonnets, Shoes and Boots, Gloves and Linen, &c.). UPHOLSTERY, CARPETING, CURTAINS, BED-FURNITURE, &c. ARTIFICIAL FLOWERS AND FEATHER ORNAMENTS. PROCESSES AND INVENTIONS USED IN THE PRODUCTION OF THESE MANUFACTURES. STATISTICS OF PRODUCTION.

NEWELL, C. J., *Newtown, Montgomeryshire, Wales*.—Welsh Gauze and Flannel. (95)

DINNEFORD & COMPANY, 172, *New Bond Street, London*.—Horsehair Friction Gloves, Belts, Bath Brushes, and Pads. (30)

BLISS, W., & SON, *Chipping Norton*.—Tweeds, Coatings, Military Serges, Shawls, Coverlets, Travelling Rugs, Sadlers' Woollens, &c. (96)

DAY, HOWGATE & HOLT, *Dewsbury*.—Woollen and Mixed Fabrics.—Presidents, Pilots, Reversible and Single Naps; Sealskins, Witneys, Friezes, Woollen Velvets; Meltons, Deerskins, Devon Naps. (97)

COGSWELL, J., & COMPANY, *Trowbridge, Wiltshire*.—Doeskins, wool-dyed black, 5s. 9d. to 7s. 6d. per yard; Treble Doeskins and Indigo-Blue, milled, 8s.; Superfine, wool-dyed black milled, single and half-milled, 10s. and 7s. 6d. per yard. (98)

BIRCHALL, J. D., & COMPANY, *Leeds*.—Woollen Coatings, plain and fancy. (99)

HINCHLIFFE, J. & J., *Queen's Mills, Armly Road, Leeds*.—Union Cloths, Deerskins, Sattarras, Ponchos, &c. (100)

ZOSSENHEIM BROTHERS, *Huddersfield and Leeds; Works, Mirfield*.—Woollen Goods; Imitation Furs, Sealskin, Otterskin, Dogskin, Astrakan, &c., woven and finished. (101)

ENGERT & ROLFE, *Barchester Street, Poplar, London*.—Felts for covering boilers and roofs, and for ship-sheathing; Fibrous Asphalte for anti-damp course in walls. (102)

(See Appendix.)

KING, W., *Gillroyd and Springfield Mills, Morley, Leeds*.—Union Cloths, Meltons, Deerskins, &c. (103)

POOLE, H., & COMPANY, *Saville Row, London*.—Woollen Goods. (104)

STUBLEY, G. & J., *Bottom's Mills, Batley, Leeds*.—Heavy Woollens. (105)

SMITH, W. JUN., *Morley, near Leeds, and 11, Aire Street, Leeds*.—Union, Melton, and Deerskin Cloths. (106)

STRETTON & COMPANY, *Bridgewater Place, Manchester*.—Cotton Cords—drab-coloured, fancy cut, fancy wove, printed, and self-colours; Lambskins—grey, white, and coloured; Diagonal Cantoons; Fancy Bedford Cotton Cords; Moleskins—drab, fancy bordered, coloured, embossed, printed, self-colours; Merinos

—black silk finished, and coloured; Coloured Pocketings; Silencias—black, coloured, coloured diagonal, and printed; Satins—printed, coloured, new coloured fancy figured, watered; White Twills; Common and Patent Black Velvets; Velveteens—plain - black patent, twilled - black patent, imitation patent, black common, printed patent, embossed plain black patent, embroidered ditto, and coloured ditto. (The Cords, Moles, and Velveteens printed by John Whitehead.) (107)

WEBSTER, J., & SON, *Old Hall Mills, Gildersome, Leeds.*—Union Pilot Cloths, Plain, Printed, Cut, and Embossed; Woollen and Union Poncho Cloths. (108)

WHITEHEAD, R. R., & BROTHERS, (LIMITED), 14, *Hanover Street, Long Acre, London.*—Felt for Pianofortes and Harmoniums, Saddles, Gold Polishing, Shoes and Slippers, Gun Wadding, Filtering; Woollen Fabrics for mechanical purposes; Cloths for pianos; Woollen Driving Belts; Spongio-piline for medical purposes; Felt for Lung Protectors and Corn Plasters. (139)

STEINER & COMPANY, *Church, near Accrington.*—Turkey-red Cambrics; Twilled Cloth; Velvets; Muslins and Handkerchiefs, plain and printed. (110)

JONES, T. & J. H., EVANS & COMPANY, *Newtown, Montgomeryshire, North Wales.*—White and Coloured Welsh Flannels and Fancy Shirtings; Welsh Shawls, plain, coloured, and striped; Welsh Tweeds. (111)

(See Appendix.)

HEPWORTH, B., & SON, *New Wakefield Mills, Dewsbury.*—Travelling and Carriage Rugs in Lambskin, Merino, Cloth, Mohair, and Blanket; Siberian Fur and Seal-skin Horse Rugs. (112)

WILKINSON, J., SON & COMPANY (LIMITED), *St. Helen's Mills, Leeds.*—Felt Carpets and Felted Cloth, Patent Brussels, Velvet, and Floor Carpets. (113)

STRACHAN & COMPANY, *Lodge-more Mills, Stroud.*—Woollen Cloths, Coatings, Trouserings, &c. (114)

SCARBOROUGH BROTHERS, *Trafalgar Works, Halifax, Yorkshire.*—Woollen Fancy Dress Goods, &c.; Worsted Coatings, Dress and Furniture Damasks, Repps, &c.; Coloured Worsted Wefts and Knitting Yarns. (115)

MITCHELL BROTHERS, *Albert Carpet Works, Waterfoot, near Manchester.*—Felt Carpets, without seams. (116)

HOOPER, C., & COMPANY, *Eastington Mills, near Stroud, Gloucestershire.*—West of England Superfine Broadcloths, Military and Hunting Cloths, Doeskins, Cassimeres and other Trouserings, Carriage Lining and Livery Cloths, Beavers, Meltons, Venetian, Kerseys, &c. (117)

LEES, R., *Lime Place, Galashiels.*—Tweeds. (772)

JONES, PRYCE, *Newtown, Montgomeryshire.*—Welsh Flannels, Shawls, Handkerchiefs, Yarns, Friezes, Cloaks, and Petticoats; Specimens of Welsh Needlework. (118)

HITCHCOCK, WILLIAMS, & COMPANY, 71 to 74, *St. Paul's Churchyard, London.*—Woollen Goods; Ladies' Costumes, &c. (119)

KERR, SCOTT & SON, 8, *Cannon Street, London.*—Shawls, Fancy Fabrics, and Travelling Rugs. (121)

NEAVE, S., & SONS, 7, *Peel Street, Manchester.*—Wools washed and carded, prepared for felt hat making, &c., dyed and undyed. Vicuna, similarly prepared. (122)

WILLANS, THOS. B., 19, *Laurence Lane, London.*—Flannels, plain, fancy, coloured; Twilled Flannel for cricketering dresses; Petticoat, Fancy Woven, and Fancy Printed Flannels. (123)

SMYTH & COMPANY, *Balbriggan, Ireland, and 36 and 37, Lower Abbey Street, Dublin.*—Hosiery known as Balbriggan Hose. (289)

BEHRENS, LOUIS, 41, *Portland Street, Manchester*.—Cotton Velvets, Patent Silk-finished Velvets, Velvettas, and Velveteens, black and coloured. (322)

PEEL BROTHERS, *Bradford*.—Woollen Materials and Mixed Fabrics for Ladies' Dresses. (617)

CLARK & COMPANY, *Anchor Thread Works, Paisley*.—Cotton Thread for Hand and Machine Sewing; Crochet, Tatting and Embroidery Cotton. (144)

WARBURG & COMPANY, 9, *Lloyd Street, Manchester*.—Cotton Fabrics; Velvets, black and coloured; Mohair Cloth, and Sleeve Linings. (125)

KESSELMEYER, W. & C., 1, *Peter Street, Manchester*.—Cotton Velvets and Velveteens, superfine and improved, plain and twilled back, in black, colours, and printed, embossed, and embroidered; Silk Face Velvets, in black and colours. (126)

HORROCKSES, MILLER & COMPANY, 9, *Bread Street, Cheapside, London*—*Manchester, Preston, Lancashire*.—Longcloths, Calicoes, Twills, Shirtings, Plain and Twilled Sheetings. (127)

WATERS, J. & E., & COMPANY, *Talbot Mills, Ellesmere Street, Hulme, Manchester*.—Sewing Cottons; Cotton, Worsted, and Mohair Braids; Cotton and Worsted Smallwares. (129)

BROOK, JONAS, & BROTHERS, *Meltham Mills, Huddersfield*.—Patent Glacé and Six Cord Sewing Cotton for hand and machine work, white and coloured; Crochet and Embroidery Cotton. (130)
(See Appendix.)

CARLILE, J., SONS & COMPANY, *Bank End Mills, Paisley*.—Sewing, Crochet and Embroidery Cotton. (131)
(See Appendix.)

CLARK, J., & COMPANY, "*Paisley Thread Works*," *Paisley*.—Sewing Threads and Cottons of various descriptions. (132)

DEWHURST, JOHN, & SONS, *Belle Vue Mills, Skipton*.—Sewing Cotton,

in white, black, and colours, with specimens in the various stages of manufacture from raw Sea-island and Egyptian Cotton. (133)

COATS, J. & P., *Ferguslie Thread Works, Paisley*.—Cotton Thread, white, black, and coloured, for hand and machine work; Extra Glacé Thread for machine use; Crochet Cotton, and Shoemakers' Thread. (134)

(See Appendix.)

EVANS, WALTER, & COMPANY, *Derby*.—Sewing, Knitting, Tatting, Crochet, Embroidering, and Machine Cottons; Glacé Thread. (135)

ASHTON & COMPANY, 45, *Chorlton Street, Manchester*.—Cotton Goods, dyed and printed; Velvets, Fustians, Linings, Cords, and Beaverteens; Satins, Shirtings, Twilled Silecia, Serges, and Cambrics, dyed and printed. (136)

BOWMAN BROTHERS, *Halifax, Yorkshire*.—Cotton Yarns, illustrating processes of carding, combing, spinning, doubling, &c. (137)

ARMITAGE, SIR ELKANAH, & SONS, 48, *Moseley Street, Manchester*.—Cotton Duck for sail cloth, Rubber Belting, Hose, and American Leather Cloth; Cotton Fabrics made of dyed yarns, for dress goods and other garments. (138)

CLARKE, I. P., & COMPANY, *King Street Mills, and Branch Mills, Leicester*.—Cotton Thread for sewing machines and for hand sewing. (139)

ERMEN & ENGELS, *Manchester*.—Cotton Thread, white and coloured, for Sewing, Crochet, Knitting, and Mending, and Cotton on spools, cards, and in balls. (140)

KERR, PRICE & COMPANY, *Underwood and Oakshaw Mills, Paisley*.—Cotton Thread for hand and machine sewing. (479)

OGDEN, T., & COMPANY, *Werneth Iron Works, Lees Hall, and Busk Mills, Oldham*.—Fishing Nets, Fishing Net Twines; Cable, Heald Yarns, Crochet, Sewing and

Knitting Cottons; Carpet Yarns, Cotton Banding, Cloth in natural state, with Doll dressed in the same; Cotton in its various stages, from the ball to the Spinning Jenny. (141)

DICKINS & COMPANY, 8, *Marsden Street, Manchester; Works, Middleton.*—Dyed and Polished Cotton Yarns: Sewings, &c. (shown in Case No. 141). (141*)

SWAINSON, BIRLEY & COMPANY, *Preston.*—Cotton Long Cloths, 36-inches wide; Heavy Shirtings. (805)

ASHWORTH, E., & SONS, *Egerton Mills, Bolton.*—Cotton, raw, and illustrating the process of manufacture; Yarns, grey, bleached, and dyed; Polished Yarns; Sewing, Embroidery, and other Cotton. (773)

DICKSONS, FERGUSON & COMPANY, *Linen Hall Street, Belfast.*—Linen, unbleached, bleached, and printed; Drills, Hollands, Sheetings, Towels, Dress Linens, Cambrics, Handkerchiefs, Diapers and Damasks. (142)

AINSWORTH, T., *Cleator, Carnforth.*—Linen Threads and Linen Towels. (143)

JAFFÉ, BROTHERS, *Warehouses, Belfast and Dundee; Works, Lurgan and Banford.*—Linen—Brown, White, and Printed; Cambric Handkerchiefs—White and Printed; Linen Yarns; Jute Fabrics and Sacks. (144)

FENTON, SON, & COMPANY, and FENTON, S. G., & COMPANY, *Linen Hall, Belfast.*—Linen Yarns, bleached and unbleached; Linens, Fronting, Medium and Heavy Family Linen; Drills, Damasks, Linen and Cambric Handkerchiefs, and Diapers. (145)

PEGLER, C., JUNIOR, & COMPANY, 58, *Briggate, Leeds.*—Linen and Damask Table Linen. (146)

MOORE & WEINBERG, *Belfast, Ireland, and Dundee, Scotland.*—Flax, Hemp, and Jute Yarns; Linens; Linen and Cambric Handkerchiefs, bleached, dyed, tinted, and printed; Damask Table Linen; Jute Car-

pets, Sacking, &c.; Wool-packs; Cotton, Guano, Grain, Flour, and Sugar Bags; Shoe and Tailors' Threads. (147)

BARBOUR, W., & SONS, *Hilden Flax Mills, Lisburn, Ireland.*—Linen Thread for Shoemaking and for Cloth, for machine as well as hand work. (148)

BETZOLD, GEORGE, & COMPANY, *Belfast, Ireland.*—Linen Fabrics, white and printed; Linen and Cambric Handkerchiefs, white and printed; Hemstitched Handkerchiefs, white, printed and embroidered. (149)

BRUCE & COMPANY, *South Shields.*—Sailcloth. (151)

BARROW FLAX & JUTE COMPANY, *Barrow-in-Furness, Lancashire.*—Jute Yarns, Jute Sackings, Baggings, and Hessians; Sacks, Bags, and Packs. (152)

MARSHALL & COMPANY, *Leeds, and Shrewsbury.*—Linen Threads and Sewing Machine Threads. (153)

GOLDSCHMIDT & SIPMAN, *Nottingham.*—Raw Silks; Organzines; Grenadines, and Trams. (154)

EVANS, D., & COMPANY, 1, *Wood Street, Cheapside, London.*—Printed Silk Handkerchiefs; Chinese Silks made under the exhibitors' direction; English manufactured Silks. (155)

SALOMONS, L., & COMPANY, 9, *Friday Street, London.*—Spun Silk, dyed and undyed; Black dyed Cordonnet for Fez Tassels, Fringes, &c.; China Thrown Silk. (156)

(See Appendix.)

JACKSON, J. & F., *Sutton Mills, Macclesfield.*—Silk Scarfs, Mufflers, Surats, and Handkerchiefs. (157)

PATTERSON, WILLIAM, & SONS, *Nottingham.*—Thrown Silks—China and Bengal Organzine and Tram, Cordonnets and Cords for the manufacture of Machine-made Lace; Grenadines made of Bengal Silk. (158)

MACCLESFIELD CHAMBER OF COMMERCE.—Trophy of Silks, comprising the following 9 entries :— (159)

BROCKLEHURST & SONS, *Macclesfield*.—Thrown Silk; Patent Spun Silk Yarns; Silk Handkerchiefs, Scarfs, Mufflers; Silk Terrée, Shirting, Dresses, and Sashes. (159a)

POTTS, WRIGHT & COMPANY, *Macclesfield*.—Silk—China, Tram, and Organzine; Silk and Sarcenet Goods; China Twills, &c. (159b)

CRITCHLEY, BRINSLEY & COMPANY, *Macclesfield*.—Ladies' and Gentlemen's Silk Goods—Cravats; Squares, &c., for the neck; Handkerchiefs; Puggarees &c. (159c)

CORNES, W. W., & COMPANY, *Macclesfield*.—Dress Silks, Glacé Silks, Cut-up Cloths, Mufflers, Sashes, Scarfs, and Ties; Silk Shawls, Handkerchiefs, &c. (159d)

PEARSON, SAMUEL, & COMPANY, *Macclesfield*.—Thrown Silk and Silk Fabrics. (159e)

MELLOR, JAMES, 7, *Chestergate Street, Macclesfield, and 16, Dale Street, Manchester*.—Silk Neckties and Scarfs. (159f)

SMALE, JOSIAH, & SON, *Macclesfield*.—Pure Silk and Mixed Goods; Poplins, Scarfs, Sashes, &c.; Machine and Hand Sewing and Embroidery Silks. (159g)

NICHOLSON, J. O., *Macclesfield*.—Silk Scarfs and Neckerchiefs; Pocket-handkerchiefs; Plain, Figured, and Brocaded Silks; Silk and Spun Silk Mufflers; Silk Sashes Brocaded; Damascene and Roman Mogadore. (159h)

SMALE, WILLIAM, *Macclesfield*.—Silk Scarfs, Ties, Handkerchiefs, Sarcenet Linings. (159i)

RICKARDS, C. A., *Bell Busk Mills, near Leeds*.—Sewing Silks for Hand and Machine use, pure and unweighted; Embroidery and Knitting Silks, Buttonhole Machine Twists, and Machine Silk Twists (160)

PIM BROTHERS & COMPANY, *Dublin*.—Irish Poplins—plain, single, double, brocaded, checked, figured, terry, satin-striped, tartan plaid, and watered; Silk Brocatelles and Terrys for Curtains, Furnishing and Upholstery purposes. (161)

(See Appendix.)

ATKINSON, R., & COMPANY, 31, *College Street, Dublin*.—Irish Poplins, specimen of Tissued Poplin brocaded in gold and colours with the Austrian Imperial Eagle, crown and monogram of their Majesties the Emperor and Empress of Austria; double, terrie, plain, ribbed, plaid check, figured, and brocaded poplins. (162)

(See Appendix.)

HADWEN, JOHN, & SONS, *Kelroyd Mills, Halifax, Yorkshire*.—Silk and Silk Yarns; Waste Silk in the raw state; Yarns spun from waste silk. (164)

CARINGTON, THE LADY, 8, *Whitehall Yard, London*.—Folding Screen of Guipure Lace in coloured Silks, worked by the needle and *appliqué* on White Satin; the pattern taken from an old Venetian velvet. Colours arranged and work executed by the exhibitor. Screen with Leaves, designed and worked by the exhibitor. (165)

STADE, H. & L., 13, *Darley Street, Bradford*.—Lace Handkerchiefs, original designs, worked by hand. (166)

JACOBY, MORITZ, & COMPANY, *Stoney Street, Nottingham*.—Patent Valenciennes and other Lace; Curtains, Bedcovers, Shawls, Veils, Scarfs; Silk Guipure Nets; Shetland Wool Shawls, &c. (167)

(See Appendix.)

SIMON, MAY & COMPANY, *Nottingham*.—Lace, Curtains, Plain and Fancy Nets, Shetland Shawls, and Vitrages. (168)

SMITH, G. J., 16, *St. Aubyn's Road, Upper Norwood, London*.—Irish Laces of all descriptions. (169)

LESTER, C. & T., *High Street, Bedford*.—Hand-made Lace, Italian Point Flounces, &c.; Maltese Coifs, Handkerchiefs, Lappets, and Fancy Collars. (170)

COPESTAKE, MOORE, CRAMP-
TON & COMPANY, *Bow Churchyard,*
London, and Nottingham.—Lace Curtains,
Shawls, and Dresses; Imitation Valenciennes
Lace; White and Black Silk Lace; Cotton
Lace. (163)

SALOMONS, L., & COMPANY,
9, *Friday Street, London.*—Straw Plait and
finished articles. (156)

POSSELT, PETERS & COM-
PANY, *City Road Mills, Derby, and Laxton*
Street Works Leicester.—Elastic Webs for
Boots; Elastic Belts, Garters; Thrown Silk
and Woven Webs. (171)

WELCH, MARGETSON & COM-
PANY, 16 & 17, *Cheapside, London.*—Shirts
and Collars; Fancy, Woollen, and Cotton
Shirtings; Neckties, Mufflers, Silk Scarfs,
and Silk Cambric Pocket Handkerchiefs,
Braces, Rugs, and Umbrellas. (172)

(See Appendix.)

SLATER, BUCKINGHAM &
COMPANY.—35 and 36, *Wood Street, Cheap-*
side, London.—Silk Scarfs and Cravats; Um-
brellas. (173)

WOODHAMS, MACQUEEN &
JOHNSON, *Hope's Carr, Stockport.*—Felt
Hats; Silk Hats. (174)

GUNDRY & SONS, 1, *Soho Square,*
London.—Boots and Shoes.

MITCHELL, JAMES, & COM-
PANY, *Tweed Place Mills, Galashiels, Scot-*
land.—Scotch Tweeds, Worsted Coatings
and Trowserings, Cheviots, Japanese Coat-
ings, Patent Yarn Tweeds, Scotch Shep-
herd Trowsering and Argyle Trowserings.
(176)

NICOLL, D., & COMPANY, 58
and 59, *Paternoster Row, London.*—Woollens
—Coatings, Tweeds, Frieze, Angola and
Llama Cloths; Pilots, Beavers, Diagonals,
Worsted Goods, Imitation Furs; Sanitary
Cloths, impervious to rain but not to pers-
piration; Hydrepellis Cloth for very cold
countries. (61)

LOBB, JOHN, 296, *Regent Street,*
London.—Boots and Shoes for Ladies and
Gentlemen. (177)

NORMAN, S., 116, *Westminster*
Bridge Road, London.—Boots and Shoes—
court, dress and walking, for ladies and
gentlemen; Cork-soled and "Surgical"
Boots. (547)

VYSE, SONS, & COMPANY, 76,
Wood Street, London; Luton, Bedfordshire;
St. Albans, Herts; Paris; and Prato, Italy.—
Straw, Chip, and Felt Hats and Bonnets.
(178)

SCOTT, WALTER, & SONS, *Tro-*
queer, Kingholm and Nithsdale Mills, Dum-
fries, Scotland.—Scotch Tweeds; Worsted
Coatings, Cheviot Coatings, Worsted Trou-
serings, Overcoatings. (179)

CHRISTY, J. E. & W., & COM-
PANY, 35, *Gracechurch Street, London.*—
Hats, Caps, and Helmets, in Felt, Silk, &c.;
Hatmakers' materials and goods in various
stages of manufacture. (180)

APPLEYARD, HENRY, 36, *Lower*
Sackville Street, Dublin.—Balbriggan Hose
for Ladies; Embroidered and "Peculiar
Lace;" one Pair Exhibited only weighs half
an ounce. (181)

MORLEY, J. & R., 18, *Wood Street,*
Cheapside, London, and Fletcher Gate,
Nottingham.—HOSIERY—Stockings, Socks,
and Underclothing in Cotton, Wool, and
Silk. (182)

LLOYD, ATTREE & SMITH, 32,
Wood Street, Cheapside.—Silk Cravats and
Scarfs, Linen Collars and Wristbands. (183)

CUMBERLAND, ROBERT, 3 *Rue*
Scribe, Paris.—Riding Habits; Hunting
Coats; Driving Capes; Hunting and
Racing Breeches; Racing Jackets and Caps.
(184)

PRITCHARD, A. & F., 58 and 60,
Stamford Street, London.—Hats. (801)

LICHTSCHEINDE & COMPANY,
10, *Upper Weymouth Street, London.*—Patent

Twin Spring Mattresses; Hair and Wool Mattresses. (185)

PAVY'S PATENT FELTED FABRIC COMPANY, 13 to 15, *Hamsell Street, Falcon Square, London*.—Felted Fabric for Window Curtains, Bed Hangings, Blinds, Wall Hangings, Bookbinding, Bed Quilts, and in Imitation of Leather. (187)

TAPLING, THOMAS, & COMPANY, 1 to 8 *Gresham Street West, London, and Glasgow*.—Tapestry for Ecclesiastical Wall Decorations, 40 feet by 15 feet, and Axminster Carpets for Saloons, each woven in one piece, by machinery. (188)

(See Appendix.)

TEMPLETON, JAMES, & COMPANY, *Glasgow*.—Petent Axminster Carpets and Hearth Rugs. (189)

TEMPLETON, J. & J. S., *Glasgow*.—Wilton and Brussels Carpets, Portières, and Window Curtains. (190)

WOODWARD, GROSVENOR & COMPANY, *Stour Vale Mills, Kidderminster*.—Brussels and Velvet Pile Carpets. (191)

(See Appendix.)

LEWIS, JOHN, *Halifax, Yorkshire, and 78, Watling Street, London*.—Carpets: Royal Wilton, Anglo-Indian, Axminster; Rugs; Real Indian Carpets and Rugs; Turkey Carpets. (192)

BRINTON, JOHN, & COMPANY, *Kidderminster*.—Wilton Carpets and Rugs. (193)

COOKE, SONS & LAW, 12, *Friday Street, London; Liversedge, Yorkshire; and Hadleigh, Suffolk*.—Carpets—Velvet Pile, Brussels, Tapestry, Kidderminster, Felt, Venetian, and Dutch; Rugs, Cocoa Matting, and Mats. (194)

MORTON & SONS, *Kidderminster*.—Carpets. (195)

WIDNELL, HENRY, & COMPANY, *Lasswade, Edinburgh*.—Tapestry Carpets; Velvet Table and Sofa Covers. (196)

CORBIÈRE, E., & SON, 30, *Cannon Street, London*.—Cretonne Prints, Cotton Satins, Plain Cotton Satins, Tapestries, Silk Poplins. (197)

LYLE, J., & COMPANY, 10, *Forneuk Street, Glasgow*.—Patent Axminster Carpeting and Rugs, Sofa Carpets, Church Mats, and Brussels Carpeting. (198)

GOWER, WOODWARD & COMPANY, *Kidderminster*.—Carpets and Rugs; Hohenzollern Carpets, a new variety; Brussels and Velvet Carpets, woven without seams. (199)

WATSON, BONTOR, & COMPANY, 35 and 36, *Old Bond Street, London*.—Carpets—Turkey, Persian, and Velvet Pile. (200)

HENDERSON & COMPANY, *Durham*.—Velvet, Scotch, and Venetian Carpets. (201)

HUMPHRIES, JAMES, & SONS, *Kidderminster, & 8 King Edward Street, Newgate Street, London*.—Wilton Carpets. (202)

LAPWORTH BROTHERS, 22, *Old Bond Street, London*.—Real Indian Carpets and Rugs. (69)

LAYBOURN, W. J., 60, *St. John's Street, West Smithfield, London*.—Ostrich Feathers. (800)

HARVEY, J., *Kidderminster*.—Design for Carpet. (265)

GROUP VI.

Leather and India-Rubber Industry.

LEATHER, ARTICLES OF LEATHER, HARNESS, SADDLES, TRUNKS, AND OTHER LEATHER GOODS (excluding Clothing and Fancy Goods; PARCHMENT AND GOLDBEATERS' SKIN. SKINS AND FURS, INDIA-RUBBER AND GUTTA PERCHA ARTICLES (excluding Philosophical and Mechanical Instruments, and parts of Machinery) WATER-PROOF STUFFS AND CLOTHS. PROCESSES AND INVENTIONS USED IN THE PRODUCTION OF THESE MANUFACTURES. STATISTICS OF PRODUCTION.

LENNAN, W., & SON, 29 to 31, *Dawson Street, Dublin*.—Carriage Harness, Saddles for Ladies and Gentlemen, Hunting Saddles, Racing Saddles, Safety Driving Reins, Stirrups, Muzzles; Noseband, anti-pulling, and other bridles. (207)

ELLAM, B., 213, *Piccadilly, London*.—Saddlery, Harness, Whips, &c. (208)

WEBB & SON, *Combs Tannery, Stowmarket*.—Leather, and Articles made of Leather. (209)

COLTMAN, WILLIAM, 22, *Promenade Villas, Cheltenham*.—Improved Ladies' Portmanteaux. (210)

SWAINE & ADENEY, 185, *Piccadilly, London*.—Saddlery and Sporting Apparatus. (211)

RABBITS, W., *St. Thomas's Works, White's Ground, Bermondsey, London*.—Boot and Shoe Upper Leathers. (212)

HUXHAMS & BROWN, *Commercial Road, Exeter*.—Ground Bark, Valonia, and Myrabolans for tanners and leather dressers. (213)

DIXON, JOHN, & SON, *Manning Street, Bermondsey, London*.—Enamelled and Japanned Hides, Split Hides, and Splits. (214)

NEWTON, GOUGH & COMPANY, *Manchester*.—Leather—English

tanned for Boot and Shoe Soles and Inner Soles; English curried for Upper Leathers of Boots and Shoes; Machine Belts; English tanned Walrus Hide. (215)

EVANS, P. & S., & COMPANY, *Avonside Tannery, Bristol*.—British Army Sole Leather; Engine Backs for Colliery Pumps, &c.; Ordinary Sole Leather; Hippopotamus Leather, and Foreign Bellies. (216)

SCHLETTER & COMPANY, *Birmingham*.—Saddlery, Harness, and general Leather Goods; Saddlers' Ironmongery and Whips; Leather Cloth and Floor Cloth; India Rubber Goods. (217)

BRACE, H., & COMPANY, 3, *Bridge Street, Walsall*.—Leather, Saddlery, Harness; Webs and Woollen Goods for Saddlery; Whips, Bits, Spurs, Stirrups; Horse and Carriage Brushes. (218)

MIDDLEMORE, W., *Holloway Road, Birmingham*.—Saddlery, Harness, and Leather Goods; English Hunting Saddle, and Indian Riding Saddle, on patent spring seats; Australian and South American Saddles; Side Saddles with spring seat; Racing Saddle; Cape of Good Hope Saddle, with patent iron tree; Machine-made Harness for Europe, the Colonies, &c.; Travelling necessities; Machine Belting; Hogskins and Enamelled Hides. (219)

TANNED LEATHER COMPANY, *Armley Works, Greenfield, near Manchester*.—Leather prepared for making mill

bands, straps, &c., for shoe soles and tops; Tanned Hides for various purposes for curriers. (220)

ECROYD, W., & SON, *Tyer's Gateway, Bermondsey, London*.—Morocco Leather for Bookbinding, Furniture Covering, and Coach Fitting. Goat Skins in "crust" ready for dyeing. (221)

DREW, J., & COMPANY, 33, *Regent Street, London*.—Trunks and Portmanteaus in solid Leather; Military Camp and Travelling Equipages—an officer's room fitted up as in England; Patent Square-mouthed "Bags," with or without Dressing Case Fittings; Patent Railway Companion Table, including card and chess table, luncheon case, writing materials, dressing case fittings, and railway lamp, with space for a hat, the whole not exceeding the size of a square hat box, and will go under the seat of the carriage. (750)

CHRISTIE, WILLIAM, *Walsall and London*.—Saddles for hunting, park, racing, &c.; Colonial Saddles; Military Saddles; Ladies' Saddles; Pads, Pilches, and Chairs for Children; Saddle Trees, &c. (321)

DEED, J. S., & SONS, 451, *Oxford Street, London*.—Skins, Mats, and Rugs; Morocco and other Leather; Cocoa Fibre Mats. (222)

CLARK, SON & MORLAND, *Glastonbury*.—Sheep and Angora Skins dressed and dyed for hearth, door and carriage rugs, Chamois Leather, Leather Leggings, and Wool-lined Slippers. (223)

PRICE, W. R., 10a, *King's Arms Yard, Moorgate Street, London*.—Skins and Furs. (224)

BIRNBAUM, B., 21, *New Broad Street, London*.—India-rubber Clothing—Coats, Capes, Aprons, Rugs, Leggings; Waterproof Cloth of all descriptions. (225)

INDIA RUBBER, GUTTA PERCHA, & TELEGRAPH WORKS, *Silvertown, Essex, and 100, Cannon Street, London*.—India Rubber and Gutta Percha Manufactures; Submarine and Torpedo Tele-

graph Cable; Insulated Telegraph Wires. (775)

LEATHER CLOTH COMPANY, 4, *Cannon Street, London*.—Crockett's Leather Cloth—Muslins, Drills, Ducks, Moleskins; double japanned and printed Table Covers. (226)

DAFT, T. B., C.E., *Bridgehouse, Farnworth, near Manchester*.—Elastic Fabrics, with model of the machinery used in making the web. (227)

WARNE, WM., & COMPANY, 9, *Gresham Street West, London*.—India-rubber Manufactures—Air-proof Articles; Magnetic Cut India-rubber thread in warps for elastic webs; waterproof cloths, and garments, surgical, mechanical, veterinary, and domestic appliances, tobacco pouches, and jars; Solid India-rubber Tubing and Suction and Delivery Hose of India-rubber and Canvas combined. Emery Wheels for grinding, polishing, &c. (228)

LEE, H. N. & E., 27, *Walling Street, and 138, High Holborn, London*.—India-rubber Garments and Fabrics; Beds, Cushions, Surgical and Domestic Appliances. (229)

HEMBRY, B., & COMPANY, 91, *Newgate Street, London*.—Linoleum Floor Cloth, Billiard Mats, Toilet and Bath Mats, Stair Cloth, and Borders; Linoleum Cement. (In use in the Hall of the Royal British Commission.) (230)

HARRY, W. D., & COMPANY, *Lower Road, Deptford, Kent*.—Kamptulicon Floor Cloths, Knife Boards, and Toilet Mats. (231)

UNITE, JOHN, 291, *Edgeware Road, London*.—Marquee, waterproof, 30 ft. by 15 ft.; Square Garden Tent, Alpine Tent, Emigrant's Tent, Military Bell Tent; Models of Tents, Marquees, and Rick Cloths; Samples of small white and tarred Hemp Rope and Twine; Trophy of Bunting Flags. (232)

EDGINGTON, JOHN, & COMPANY, 48, *Long Lane, Smithfield*.—Hospital

Tent for collection of Military Equipment and Sanitary Appliances. (233)

SIMON, MAY & COMPANY, *Nottingham*.—Elastic Web Fabrics. (168)

TURNER, ARCHIBALD, & COMPANY, *Bow Bridge Works, Leicester*.—

Elastic Fabrics; Boot-gusset Webs; Cotton and Silk Frills; French Webs; Pocket Book and Porte-monnaie Webs; Surgical Webs; Cords and Braids in Silk, Lustres, Cotton, Mohair, &c. (776)
(See Appendix.)

GROUP VII.

Metal Industry.

GOLDSMITHS' AND SILVERSMITHS' WORK, AND JEWELLERY, &c. IRON AND STEEL WARES (excluding Machinery, Building Materials, Philosophical and Musical Instruments). MANUFACTURES FROM OTHER METALS AND ALLOYS. WEAPONS OF EVERY DESCRIPTION, except Military Arms. PROCESSES AND INVENTIONS USED IN THE PRODUCTION OF THESE MANUFACTURES. STATISTICS OF PRODUCTION.

HANCOCKS & COMPANY, 38 and 39, *Bruton Street, London*.—Diamonds and Pearls; Jewellery; Gold and Silversmiths' Work; Electro-Plated Goods. (240)

ELKINGTON & COMPANY, *Birmingham*.—Silver Plate; Electro-gilt Plate; Bronze and Enamelled Works; Plated Goods; Bronzes, cast and electro-deposited; Artistic objects in all metals. (241)

THOMAS, W. J., 28, *Old Bond Street, London*.—Jewellery, Silver Plate, Precious Stones, Watches. (242)

AITCHISON, JAMES, 23, *Princes Street, Edinburgh*.—Gold and Silver Jewellery; Highland Ornaments set with Scotch Pearls, Pebbles, Cairngorm, &c. (243)

DAVIS, G., SON & COMPANY, 37, 37½, & 38, *Sun Street West, Birmingham*.—Whip Handles; Umbrella and Walking Stick Mounts and Handles; Whip Sticks, Whip Thongs, and Materials used in the making of Whips. (244)

GOGGIN, JEREMIAH, 74, *Grafton Street, Dublin*.—Bog Oak; Albums, Writing Desks, Dressing Cases, &c.; Celtic Ornaments for personal wear, set with gems. (245)

WHITELEY, WILLIAM, 31, *Westbourne Grove, London*.—Black Glass Ornaments—Coronets, Aigrettes, Brooches, Bracelets, Combs, Chatelaines, Earrings, Buckles, Necklets, &c. (246)

FRANCHI, G., & COMPANY, 15, *Myddleton Street, Clerkenwell, London*.—Electrotype Plate; Reproductions of Works of Art, &c. (247)

BETJEMANN, G., & SONS, 36 and 38, *Pentonville Road, London*.—Albums, Dressing Cases, Envelope Cases, Caskets, Candelabra, Trinket, and other Boxes, in various woods, ormolu, &c., decorated with marble and stones. (808)

NEAL, JOHN, 44, *Edgware Road, London*.—Pyro-silver. (324)

TAYLOR BROTHERS, *Adelaide Works, Sheffield*.—Circular Saw, 7 ft. 2½ in. in diameter, best cast steel, perforated, hardened and tempered, and ground by patented machinery. (248)

JOHNSON, RICHARD, & NEPHEW, 27, *Dale Street, Manchester*.—Wire Rods; a Weldless Wire Rod, 1,770 yards long; Galvanized Telegraphic Wire. (249)

JOHNSON, RICHARD, CLAPHAM, & MORRIS, 27, *Dale Street, Manchester*.—Iron, Copper, and Brass Cloth; Wire Netting; Cloth for Paper-making and other Wirework; fine Copper and Brass Wire. (249*)

MILWARD, J. F., 160, *Great Hampton Row, Birmingham*.—Awl Blades; Sewing Machine Turnscrows; Harness Makers' Awls. (777)

FUSSELL, JAMES, SONS, & COMPANY, *Frome*.—Agricultural Edged Tools, such as Hay, Chaff, Engine and Machine, and Thatchers' Knives; Bagging, Bean, Brushing, Eaves, Hewing, Reaping, and Furze Hooks; Scythes, Patent Adjusting Scythe Snead. (250)

LEONARDT, D., & COMPANY, 69, *George Street, Parade, Birmingham*.—Gold Pens, Pencilcases, Penholders, and Steel Pens. (251)

YATES, HAYWOOD & COMPANY, 95, *Upper Thames Street, London, and Effingham Works, Rotherham*.—Stable Fittings in Iron; Stoves, Fenders, and Fire Irons. (252)

SMITH, ROBERT, & COMPANY, *Porter Works, Sharrow Vale, Sheffield*.—Crucible Cast Steel; Steel for Tools, Taps and Dies, Drills, Spindles, and Sewing Machines; Cast Sheet Steel, Bessemer Steel, Cold Rolled Steel; Spindles; Cast Steel Hammers and Files; Cast Steel in ingots. (253)

MILWARD, H. & SONS, *Redditch, Worcestershire*.—Needles, Fish-hooks, Sewing Machine Needles, Fishing Tackle, Crochet-hooks, and Fancy Goods. (254)

BUDDE, C., & COMPANY (LIMITED), *Birmingham*.—Sheet Iron, Iron Wire, and Tubing; Hoop Iron, Tin Plates, Bar, Angle, and Channel Iron. (255)

BRANDAUER, C., 401, *New John-street West, Birmingham*.—Pens and Penholders. (266)

COLLINGS & WALLIS, *'King Edward's Road, Birmingham'*.—Wrought Iron Chains, Anvils, Nails, Spades and Shovels; Steel Spades and Shovels, Edged and other Tools, Cutlery, Files, Rasps, Corkscrews, and Steel Toys; Cast Iron Umbrella Stands, Iron Fenders and Fire Irons; Cast Steel Axles, Hay, Dung, and Digging Forks; Portable Forge; Brass-foundry. (257)

BROWN & COMPANY, *The Wednesbury Tube Works, Wednesbury*.—Boiler Tubes of Charcoal; Staffordshire and Yorkshire Iron, Steel, and Howell's Homogeneous Metal; Gas Tubes and Fittings; Steam and Water Tubes and Fittings; Hydraulic Tubes; Artesian Well Boring Tubes; Taper Telegraph Posts; Heating and Condensing Coils; Roller Tubes; Loom Beams, &c. (258)

(See Appendix.)

WOODFIELD, W., & SONS, *Easemore Works, Redditch*.—Needles for Hand and Machine Sewing; Fish Hooks. (259)

SANDERSON BROTHERS & COMPANY, *Sheffield*.—Steel and Files. (260)

BENHAM & SONS, 50, 52, and 54, *Wigmore Street, London*.—Stoves, Fenders, Fire Irons, Papier-Mâché, and Japanned Ware; Lavatory Table, Water Closet, Ventilating Gas Lamps; Electro-plated Goods; Pneumatic Bell Apparatus; Marble Chimney Pieces. (261)

CLARK, WILLIAM, 232, *Oxford Street, London*.—Horse Clippers, worked by hand or other power. (778)

SMITH, JOHN WRIGHT, 121, *Belgrave Street, Leicester*.—Self-Acting

Needles for the Manufacture of Hosiery. (779)

BROWN, SIR JOHN, & COMPANY, *Sheffield*.—Bessemer Steel Rails, Axles, and Tyres; Iron Axles and Tyres; Railway Waggon Springs and Buffers; Engine Springs; Iron Boiler Plates; Armour Plates, Bolts, and Screws; Shot. (794)

FIRTH, THOMAS, & SONS, *Norfolk Works, Sheffield*.—Homogeneous Steel Core, for 35-ton gun; Forgings of the same metal, for artillery, rifle barrels, &c.; Illustrations of Tensile Strain and Elongation of the Homogeneous Steel. (807)

KENYON, JOHN, & COMPANY, *Millsands, Sheffield*.—Steel, Files, Saws, and Edged Tools. (262)

(See Appendix.)

SHAW & FISHER, 43, *Suffolk Road, Sheffield*.—Britannia Metal and Electro-Silver Plate; Dinner, Tea, and Coffee Sets; Waiters; Tea-Kettles; Lamp-Stands; Hot Water and other Dishes; Soup Tureens, Cruet-Stands, and other Table-Ware; Candlesticks, &c. (263)

AVERY, W., & SON, *Redditch*.—Needles, Needlecases and Pincases. (264)

PATENT RIBAND TELEGRAPH POST COMPANY, *New Islington, Manchester*.—Telegraph Posts, &c. (654)

WINFIELD, R. W., & COMPANY, *Birmingham*.—Brass and Copper Tubes, Iron and Brass-cased Tubes, Brass and Copper Wire, Sheets, Plates, Rods, and Rolled Metal; Gas Chandeliers and Gas Fittings for Lighting and Heating; Iron Bedsteads; Brass and Copper Bedsteads and Metallic Furniture; general Brass-foundry. (266)

RUSSELL, JAMES, & SONS, *Crown Tube Works, Wednesbury, and 3, Southwark Street, London*.—Wrought-Iron Tubes; Steam Boiler Tubes; Gas Tubes and Fittings; Steam and Water Tubes; Iron Telegraph-Poles; Hydraulic Press Tubes; Pneumatic Buffer Tubes; Steam Fittings in

Gun-metal, Brass, and Plain and Galvanised Iron; Stocks, Taps, and Dies for cutting Tube Screws. (267)

PIGALL, FRANZ, 22, *Tichborne Street, London*.—Cutlery, Knives, and Forks; Pen, Pocket, and Hunting Knives; Razors, Scissors, with flexible bows, &c. (268)

LEMPART, MAURICE, 150, *Leadenhall Street, London*.—Cutlery. (321)

HOBBS, HART & COMPANY, 76, *Cheapside, London*.—Locks made by machinery; Permutating and Endless-change Key Locks; Iron Safes, for use of jewellers, &c.; Fire-resisting Safes. (269)

PATENT NUT & BOLT COMPANY (LIMITED), *Birmingham & West Bromwich, England; and Cwm Bran Works: Cwm Bran Blast Furnaces, and Cwm Bran Collieries, South Wales*.—Fish Bolts, Fishplates, Sole-plates, Spikes, Fang Bolts, and all other kinds of Railway Fastenings; every description of Bolts and Nuts, Rivets, Set Screws, Coach Screws, Washers, Telegraphic Ironwork, &c; Hand and Machine-made, in Steel, Iron, Copper, Brass, and Yellow Metal, black, bright, and galvanised, as used by Engineers, Railway Companies, Telegraphic Constructors, Contractors, Shipbuilders, Carriage, and Wagon Builders, and others. (270)

(See Appendix.)

WILSON-HAWKSWORTH, ELLISON & COMPANY, *Carlisle Works, Sheffield*.—Steel; Steel Wire; Files; Railway Springs; Hammers, &c. (271)

MOSER, H. & R. J., *New Road, Wandsworth Road, London*.—Horse Nails of all forms and sizes, made with the patent machinery of Messrs. J. and J. A. Huggett. (272)

BROADHEAD, R., & COMPANY, *Britannia Works, Sheffield*.—Britannia Metal and electro-plated Goods; Thompson's Patent mounted Earthenware Jugs. (273)

MILNER, THOS., & SON, *Phoenix Works, Liverpool*.—Fire-resisting and Hold-fast Wrought-iron Safes. (274)

BROOKES & CROOKES, *Atlantic Works, Sheffield*.—Knives, Razors, Scissors, and Dressing Case Instruments. (275)

MACDANIEL & COMPANY, 343, *Oxford Street, London*.—Fine worked Steel Cutlery; Ladies' Étuis; Razors; Hunting, Pen, and Pocket Knives; Scissors; Table Cutlery. (276)

BOWLING IRON COMPANY, *Bradford, Yorkshire*.—Iron and Steel—Boiler Plates; Steel and Iron Tires, Axles and Bar Iron; Steel Castings. Illustrations of proportions of Coal, Ironstone, and Limestone employed to produce the cube of iron shown. Drawings of Engines, and Photographs of the Works. (277)

COALBROOK-DALE COMPANY, *Coalbrook-dale, Shropshire*.—Grand Entrance in Mediæval style, consisting of a pair of Wrought Iron Gates, 2 Hand Gates, 4 Pillars, and short lengths of Railing to match, executed from designs by B. J. Talbert, Esq.; the enrichments are of cast iron, applied, and the twisted bars are produced by Tuddenham's patent process, with two lengths of Wrought and Cast Railing on either side. (The above enclose the space between the two North entrances to the British section). The Gates, Railings, Gas Pillars, &c., enclosing the house of the Royal British Commission, viz.:—The principal entrance of cast sheet fence and gates, terminated by 2 gas pillars; the 2 lengths improved cast palisade fence on either side; a length of cast sheet balcony railing on east side; the west entrance to the building of patent twisted angle bar fence and gates; a length of the same fence of various designs on west and north sides; a length of bracket railing on east side within the grounds. Various coats of arms and trophies in and about the house of Royal British Commission. Garden Chairs in grounds and park:—Osmunda Regalis, Water Plant, Mediæval, Midsummer Night's Dream, Nasturtium, Horse Chestnut, and Medallion. Vases in grounds and park:—Milton, Night and Morning, Classic, and Jardinière. Flower Stands in grounds and park, with shelves and dishes. Garden Rollers on improved principle (in Agricultural Hall). (278)

(See Appendix.)

SMITH, J. K., & COMPANY, 63, *St. Vincent Street, Glasgow*.—Galvanized and Corrugated Sheet Iron. (279)

FIELD & SON, 233, *Holborn, London*.—Police Bull's Eye Lanterns. (320)

KIRKSTALL FORGE COMPANY, *Leeds*.—Iron Wheels, Axles and Tyres for railway carriages and other vehicles. Specimens of best Yorkshire Iron. (280)

(See Appendix.)

SPEAR & JACKSON, *Etna Works, Sheffield*.—Steel, Steel Forgings, &c.; Saws, Files, Edged Tools, Elastic Steel Agricultural and Horticultural Tools; Engineers', Smiths', Mining and Quarrying Tools. (281)

(See Appendix.)

CAMMELL, CHARLES, & COMPANY, *Cyclops Steel and Iron Works, Sheffield*.—Rolled Iron and Armour Plates and their fastenings; Steel Tires, Axles, Railway Springs, Rails, Castings, Screw Propellers, &c., and Steel in bars. (797)

BALDWIN, E. P. & W., *Wilden Works, near Stourport*.—Sheet Iron, Tin Plates, Button Iron, &c. (284)

(See Appendix.)

PERKINS, B., & SON, 141, *Cannon Street, London*.—Tin, Iron Plate, and Japanned Wares; Toilet Furniture, Baths, Dish Covers, Tea-Trays, Coal Vases. (285)

FARROW & JACKSON, 18, *Great Tower Street and 8, Haymarket, London, and 23, Rue du Pont Neuf, Paris*.—Wine Bins; Machines and Implements for the management of wines; Soda Water Apparatus; Beer Engines and Pumps; Knife Cleaners, and other domestic appliances; Grape-Crushing Machine. (286)

WARD & PAYNE, 114, *West Street, Sheffield*.—Sheep Shears and Edge Tools. (287)

WILLS, A. W., *Park Mills, Nechells, Birmingham*.—Edge Tools, Axes, Adzes, Hooks, Hoes, Spades, Shovels, Spuds, and Forks of solid cast-steel. (288)

(See Appendix.)

FEETHAM & COMPANY, 9, *Clifford Street, London*.—Stoves and Grates for burning coals and wood; Warm Air Ventilating Grates; Fire Dogs, Fenders, and Fire Irons; Fire Guards; Coal Boxes, &c.; Warm Air Fireplace for Exhibitors' Club Room; Projecting Grate for H.R.H. the Prince of Wales's room; two Camp Cooking Stoves for Workmen's Kitchens. (Lent to the Royal Commissioners.) (289)

LICHTSCHEINDE & COMPANY, 10, *Upper Weymouth Street, London*.—Brass and Iron Bedsteads. (185)

CHATWOOD, SAMUEL, *Lancashire Safe and Lock Works, Bolton, and 120, Cannon Street, London*.—Steel and Iron Safes, to resist fire and burglars; Iron Door for bankers' strong-rooms; Iron Deed Chests; Cast Steel Composite Coffers and Safes; Locks; Model of Patent Built-up Wall Safe, &c. (290)

(See Appendix.)

HAYES, CROSSLEY & COMPANY, 153, *Cheapside, London, and Alcester*.—Needles, called "double-pointed," that is, tapering both ways from the middle, in various stages of manufacture. (798)

PASCALL, ATKEY & SON, *Cowes, Isle of Wight*.—Cooking Range for a Yacht; Saloon or Hall Stove. (799)

BLEWS, WILLIAM, & SONS, *New Bartholomew Street, Birmingham*.—Chandeliers in metal and glass; Gas, Steam, and Water Fittings; Hydrants; Iron and Brass Tubes; Church and other Bells; Weights of various standards; Water Closets and Fittings, &c. (802)

CLARKE & COMPANY, *Rathbone Place, London, and 8, Karuthnerstrasse, Vienna*.—Self-coiling Steel and Wood Shutters; Louvre Venetian Shutters. (803)

LANDORE SIEMENS STEEL COMPANY, *Landore, near Swansea*.—Steel Rails, Plates for Tinning, trimmed and plain rolled; Steel Barrel and Body of Martini-Henry Rifle, &c. (804)

MACFARLANE, W., & COMPANY, *Saracen Foundry, Glasgow*.—Cast

Iron, Ornamental Rain Water Goods, Lamp Posts, &c. (291a)

KIRBY, BEARD & COMPANY, 18, *Cannon Street, London*.—Pins, Needles, and Hair Pins. (292)

HILL & SMITH, *Brierley Hill Iron Works, Staffordshire*.—Iron Gates, Wire Fencing, &c. (293)

FRANCIS, T., & COMPANY, *Liverpool Street, Birmingham*.—Nails and Castings of Malleable Iron. (294)

SMITH & TURNER, 50, *Bartholomew Close, London*.—Ben Turner's Patent Adjustable Regulating Double-Action Door Spring, and Smith's Double-Action Door Spring, Door Centres, &c. (282)

BARNARD, BISHOP & BARNARDS, *Norfolk Iron Works, Norwich*.—Cottage Range, Mangle, Root Grater, Bottle Bin, Poultry Fountain, Carriage Jack, and machine made Staples. (295)

GILLOTT, JOSEPH, & SONS, *Victoria Works, Birmingham*.—Steel Pens. (296)

(See Appendix.)

RATCLIFF & TYLER, 76, *New John Street, Aston Road, Birmingham*.—Gas Fittings, Gaseliers; General Artistic Metal Work. (297)

(See Appendix.)

BURNEY & COMPANY, *Millwall Docks, London*.—Iron Cisterns and Tanks, painted or galvanised, as made for the Royal British Navy. (299)

(See Appendix.)

PARTRIDGE & COMPANY, *Lombard Street, Birmingham*.—Gas Fittings, Chandeliers or "Gazeliers," and Brackets and Ceiling Roses. (300)

PEARSON, F. G., & COMPANY, *Hope Works, Furnace Hill, Sheffield*.—Adzes, Augers, Axes; Hay, Manure, and Digging Forks; Hatchets; Joiners' and Engineers' Tools, Trowels, and all descriptions of light and heavy Edged Tools. (301)

(See Appendix.)

BEST & LLOYD, *Cambray Works, Handsworth, Birmingham*.—Brass Gas Chandeliers and Gas Fittings. (302)

WATTS, JOHN, & COMPANY (S. Bateson, inventor), *Broad Weir, Bristol*.—Vermin Asphyxiator; Disinfector, Fumigator, and Vaporiser. (783)

TINPLATE DECORATING COMPANY, *Neath, Wales*.—Decorated Tinplates and Goods made from the same; Tinplates, and Tin Ware. (303)

EVERITT, ALLEN, & SONS, *Birmingham*.—Brass and Copper Tubes, Rolled Sheets, Wire and Nails, Copper Rivets and Washers, and Pierced Brass. (304)

(See Appendix.)

ELMSLIE, E. W., 5, *Great Winchester Buildings, Old Broad Street, London*.—Hermetically Closed Tin Cases for Preserved Provisions, which can be opened neatly and readily without a knife. (305)

BROWN, J. B., & COMPANY, 90, *Cannon Street, London*.—Galvanized Wire Netting, Fencing Wire; Lawn Mowing Machines, &c. (306)

SMITH, FREDERICK, & COMPANY, *Caledonian Works, Halifax, Yorkshire*.—Iron Wire—For Cotton and Wool Cards, Colliery Ropes, Ships' Rigging, Telegraphs, Fencing; Weavers' Reeds, Ladies' Bonnets, &c., with illustrations of manufacture. (307)

WALKER, CAMPBELL, & COMPANY, 59, *Bridgewater Street, Liverpool*.—Haine's Patent Block-tin and Lead Pipes. (378)

PEYTON & PEYTON, *Bordesley Works, Birmingham*.—Brass and Iron Bedsteads, Cots, Flower Stands; and Spring Mattresses. (308)

HEMMING, S. C., & COMPANY, 25, *Moorgate Street London*.—Iron Buildings, namely, two Workmen's Houses; Royal Commission Pavilion, and Offices of British Commission; a Club Room (Lent to Her Majesty's Commissioners for use). Also a

Church; Photographic Association House and an Italian Restaurant. (309)

PHILLIP, CHARLES J., 20, *Caroline Street, and 29, Mary Street, Birmingham*.—Chandeliers. (93)

SANDERS, H. G., *Little Albany Street, Regent's Park, London*.—Metallic Collapsible Tin Tubes for artists' colours, perfumes, cosmetics, &c. (310)

CROGGON & COMPANY, *Albion Wharf, 10, Upper Thames Street, London*.—Building, constructed of galvanised corrugated iron and wood. (319)

FLETCHER, LOWNDES & COMPANY (per Messrs. Dows, Clark & Company), 13a, *Great George Street, Westminster*.—Pavilion, the roof of which is constructed on Howitt's Patent System of Tubular Wrought Iron Ribs. (311)

LANCASTER, A., 27, *South Audley Street, London*.—Sporting Fire Arms, first quality, with latest and best improvements in Guns and Rifles. (312)

HENRY, ALEXANDER, 12, *South St. Andrew Street, Edinburgh*.—Henry's Express Rifles, Single and Double Barrelled, and Double Central-Fire Gun. (313)

LEWIS, GEORGE EDWARD, 32 and 33, *Lower Loveday Street, Birmingham*.—Breech-loading Sporting Guns, double barrelled, central fire, &c.; Double Bolt-snap or Self-locking Pin Fire Breech-loaders for sporting, with steel breech-ends to the barrels; Treble Grip-snap Breech-loading Sporting Guns, with self-acting compensation bolt to save wear of breech-ends; Double Barrelled Express Sporting Rifle, with low trajectory, .450 bore; Martini-Henry Sporting Rifle, 15 $\frac{1}{2}$ 15s. (664)

TAYLER, D. F., & COMPANY, *New Hall Works, George Street, Birmingham*.—Solid headed Toilet Pins; Hair Pins; Hooks and Eyes; Pearl Buttons; Thimbles; Iron, Steel, Brass, and Copper Wire. (291)

SCHLETTER & COMPANY, *Birmingham*.—Fire Arms; Tin Plates; Tin

and Japanned Ware; Cutlery, Edged Tools, Bells; Gilt Jewellery, Brass-foundry, Needles. (217)

DOUGALL, JAMES D., 59, *St. James's Street, London*.—Sporting Guns and Rifles, and new Explosives; Rifles for deer stalking, tiger and elephant shooting, swan and duck, and small game; Sawdust Gunpowder for sporting purposes, &c. (314)

MURCOTT, THEOPHILUS, 68, *Haymarket, London*.—Patent Hammerless Breech-loading Sporting Guns. (320)

DOULTON & COMPANY, 28, *High Street, Lambeth, London*.—Plumbago Crucibles and Melting Pots, Muffles; Fire Clay Crucibles, Furnaces, Melting Pots, Evaporating Vessels, Muffles, &c. (315)

HYNAM, JOHN, 7, *Princes Square, Finsbury, London*.—Plumbago Crucibles for Gold, Silver, and Steel Refiners; Steel Refiner's Pots; Brass and other Metal Melters, &c. (319)

(See Appendix.)

PATENT PLUMBAGO CRUCIBLE COMPANY, *Battersea Works, London*.—Plumbago Crucibles, Melting Pots, &c. (317)

GROUP VIII.

Wood Industry.

CABINET WORK (Inlaid Floors, Windows, Doors, &c.). JOINERS' WORK. CLEFT WOODWORK (Casks, Shingles, Sieves, &c.). SMALL STAVES AND THEIR PRODUCTS, MATCHES, &c.). VENEERS AND MARQUETRIES. CUT AND TURNED WOOD. CHISEL WORK AND CARVED WORK. CORK MANUFACTURES. BASKET WORK. WOODWORK PAINTED, STAINED AND GILT. PROCESSES AND INVENTIONS USED IN THE PRODUCTION OF THESE MANUFACTURES. STATISTICS OF MANUFACTURE.

FOLEY, ARTHUR, *Fisherton Machine Cabinet Works, Salisbury*.—Boudoir Toilet Table of English yew tree and sycamore wood, and Toilet Table of American birch, inlaid with various woods, and decorated with incised Arabesques and Photographs, printed on the wood. Designed by H. Dickenson. (810)

HOLLAND & SONS, 23, *Mount Street, Grosvenor Square, London*.—Furniture. (325)

JACOB, THOMAS, 10, *Vicar's Road, Haverstock Hill, London*.—Table made of Amboyna wood, and inlaid with ivory and coloured woods. (326)

GILLOW & COMPANY, 176, *Oxford Street, London*.—Artistic Furniture—Inlaid Cabinet of Ebony and other woods in the old English style. (327)

JACKSON & GRAHAM, 30 to 38, *Oxford Street, London*.—Decorative Furniture and Carpets. (328)

COOPER & HOLT, 48, 49, and 50, *Bunhill Row, London*.—Mediæval Oak Buffet and Carving Stand to match; Ebony Flower Stand with Decorative Tile Panels; Drawing-room Cabinet of Satinwood, with glass back, inlaid with Ivory, Ebony, and other woods, mounted in Ormolu. In Children's Pavilion: Ash Furniture and General

Nursery Fittings. In the Exhibitors' Waiting and Reading Rooms in the Royal British Commission Offices, a Patent Reversible Billiard Table, and other Furniture. Furniture and General Fittings in the English Workmen's Houses. (329)

HEAL & SON, 195 to 198, *Tottenham Court Road, London*.—Bedroom Furniture. (330)

WARD, HENRY, 2, *Vere Street, Oxford Street, London*.—Stuffed Birds; Collections of Humming and other Birds, mounted within glass fire screens. (331)

WARD, EDWIN, *Wigmore Street, London*.—Hoofs of a Stag killed at Compiègne, by H.R.H. the Prince of Wales, adapted to a Memorial Inkstand. (340)

COLLINSON & LOCK, 109, *Fleet Street, London*.—Cabinets in Satinwood, Rosewood, &c.; Fireplace with Decorated Panels; Sideboards and Chairs. (332)

MORANT, BOYD & BLANFORD, 91, *New Bond Street, London*.—Ebonised Sideboard, Neo-Grec style; Walnut-tree Writing-table, style Louis XVI.; Florentine Pedestals, carved in alto-relievo and gilt; Wall and Ceiling Decoration, in ebony and gold, with painted panels in Italian style; Louis XVI. Cheval Screens; and other examples of decorative furniture. (333)

WALKER, W., *Bunhill Row, London*.—Suite of Furniture, consisting of Wardrobe, Toilet Table and Wash-hand Stand, in Satin Wood inlaid with engraved ivory and coloured woods, and sculptured ivory medallions. (334)
(See Appendix.)

CLARK, W., & SONS, 383, *Kennington Road, Lambeth, London*.—Chairs in Oak, Satin Wood, Ebonized Wood, gilt, covered with satin, &c. (785)

DREW, J., & COMPANY, 33, *Regent Street, London*.—Solid Leather Trunks and Portmanteaus, Dressing and Travelling Bags, Railway Companion Table, Dressing Case Portmanteau, and Show Cases for the Exhibition. (750)

SAGE, F., 80 to 84, *Gray's Inn Road, London*.—Show Cases for the Exhibition. (751)

SOMMERVILLE & SMITH, 34, *Eagle Street, Red Lion Square, London*.—Show Cases for the Exhibition. (752)

JEFFREYS, CHARLES, 103, *Hatton Garden, London*.—Velvet Jewellery Stands and Show cases for the Exhibition. (753)

BATTAM, HEYWOOD & HANKS, 54, *Oxford Street*; 1, *Berners Street*; and 17, *Regent Street, London*.—Ebonised and Gilt "Structural" Pavilion, Table Chairs, and Carpet, designed by Dr. Dresser, F.L.S. (94)

CLARKE, J. R., 5, *Liverpool Street, Walworth, London*.—Fancy Inlaid Articles in Wood, known as "Tonbridge Ware;" Mosaic Wood, made from natural British and Foreign woods without any dye or colouring. (335)

NEVILL, LADY DOROTHY, *Dangstein, Petersfield*.—Workbox. (336)

MINNS, J., *Thorn Lane, Norwich*.—Wood Carvings; Animals, Birds, Foliage, &c. (337)

BARNARD, B., 107, *St. Paul's Road, Highbury, London*.—Folding Hammock Basinettes and Baskets. (338)

DUNCAN, J., 6, *George Street, Great Portland Street, London*.—Painted Imitations of Woods and Marbles. (339)

GROUP IX.

Stone, Earthenware, and Glass Industry.

STONES, NATURAL AND ARTIFICIAL; Slate and Cement Works, Natural and Imitated Stones and Marbles, Paving Stones and Floor Tiles, Ornaments and Decorations, Pipes, Grinding Stones, &c. EARTHENWARE, PIPES, COOKING VESSELS, STOVES, PLASTIC PRODUCTIONS, TERRA COTTAS, &c. GLASS MANUFACTURES; Glass for Household use and Fancy Purposes, Imitation Gems and Pearls, unset, &c. PROCESSES AND MANUFACTURES USED IN THE PRODUCTION OF THE ABOVE ARTICLES. STATISTICS OF PRODUCTION.

DIRECTORS OF CONVICT PRISONS IN ENGLAND.—Mosaic Flooring Constructed of Scraps of Marble, the work of Female Convicts in Woking Prison. (340)

JOHNSON, I. C., & COMPANY, 25, *Great Tower Street, London*.—Cements, Concrete Blocks of Cement, &c.; Testing Machine to show strength of Cement. (345)

MINTON, HOLLINS, & COMPANY, *Patent Tile Works, Stoke-upon-Trent, Staffordshire*; and 50, *Conduit Street, Regent Street, London*.—Tiles—plain, glazed, encaustic, majolica-embossed, printed, enamelled, and painted; Chimney-piece of wood and marble, inlaid with painted tiles; and with Fireplace fitted complete Mosaic Reredos, Mosaic and Encaustic Tile Pavements; Marble Chimney-piece, with Stove, inlaid with painted earthenware slabs. (346)

WELSH SLATE COMPANY, 19, *Spring Gardens, Charing Cross, London*.—Slates and Slabs from Palmerston Quarry, North Wales, namely, one slab smoothed on both sides, another showing the natural surface of the slate; Roofing Slates of various dimensions, and ridges split twenty to the inch, to show the cleavage of the slate. (347)

(See Appendix.)

GREAVES, J. W., *Port Madoc, North Wales*.—Best Blue Roofing Slates from his Festiniog Quarries, North Wales. (348)

PEN-YR-ORSEDD SLATE QUARRY COMPANY, W. A. DARBI-

SHIRE, Manager, *Carnarvon, North Wales*.—Slate for Roofing; Slate Slabs; Slate Ridge for Roofs; Writing Slates, made with Dixon's patent machinery. (349)

LAVERS, A. H., *Nine Elms, London*.—Portland Cements, Roman, Keene's and Parian; Plaster of Paris. (350)

TAYLOR, ROBERT MINTON, *Fenton, near Stoke-upon-Trent, and 206, Great Portland Street, London* (Agents at Vienna, Springer & Sterne).—Encaustic, Geometrical, and Majolica Tiles and Mosaics. (351)

TURNER, W., *Carnarvon, Wales*.—Welsh Roofing Slates. (352)

SCOTT'S SEWAGE COMPANY, *Ealing, London*.—Cement, prepared from sewage deposit; the burnt sewage cements reduced to powder; the same cements set neat. (19)

CWMORTHIN SLATE COMPANY (LIMITED), *Port Madoc, North Wales*.—Roofing Slates. (353)

WOULDHAM CEMENT COMPANY, *Wouldham, Rochester, Kent*.—Portland Cement in various stages of manufacture. (354)

BURGH CASTLE PORTLAND CEMENT COMPANY (LIMITED), *Burgh Castle, Great Yarmouth*.—Portland Cement in its various stages of manufacture, as prepared for stuccoing, for concrete and for

hydraulic purposes; Test Blocks of the same which have borne a tensile strain of 1,120 pounds on $1\frac{1}{2}$ square inches, after seven days' immersion in water; White Suffolk facing and moulded Bricks. (355)

WOOD & IVERY, *Albion Brick Works, West Bromwich, Staffordshire*.—Terra-Metallic Coping, Cornices, Mouldings, Plain and Ornamental Bricks, Channels, Garden Edging, Caps, Plinths, Kerbing and Paving Slabs, &c., &c. (356)

HAMMILL, J. B., *Bridgewater*.—Bath Bricks, made from selected sediments of the river Parret, at Bridgewater, for cleaning, brightening, and polishing hardware, brass, and other metal work, knives, &c. (787)

FORD, LEWIS, & COMPANY, *Bristol Road, Gloucester*.—Slate and Marble, Enamelled, Chimney Piece, Table Tops, &c. (788)

WEDGWOOD, JOSIAH, & SONS, *Etruria, Staffordshire*.—Jasper or Wedgwood Ware, white bas-relief on coloured ground, unglazed; "Henri-deux" imitation; Art Pottery Paintings, by M. Lessore; Paintings on Raw Enamel, by M. Beau; Majolica Vases, Dessert, and Fancy Articles; Enamelled, Printed, and Cream-coloured Earthenware; Chemical and Telegraphic Ware; Sanatory and Plumbers' Ware. (796)

DOULTON & WATTS, *Lambeth Potteries, London*.—Stoneware of every description, for chemical manufacturers, dyers, and others. (357)

JONES, G., *Trent Potteries, Stoke-upon-Trent*.—Earthenware and Majolica. (358)

GREEN, JAMES, 35, *Upper Thames Street, London*.—Table Glass, cut and engraved; Glass Lustres and Chandeliers, Vases, Table and other decorative objects. (360)

DANIELL, A. B., & SON, 46, *Wigmore Street, London*.—Glass for Household Use and Ornamental Glass; Pottery

and Porcelain, Dinner and Dessert, Breakfast and Tea Services, Toilet Ware, Majolica Vases, and Collection of Ornamental Objects. (361)

COPELAND, W. T., & SONS, 160, *New Bond Street, London; and Stoke-upon-Trent, Staffordshire*.—Glass for Table Use: cut, engraved, plain, and moulded; Porcelain Vases, Dinner, Dessert and Tea Services. Statuettes in Ceramic Statuary. (362)

MOORE, E., & COMPANY, *Tyne Flint Glass Works, South Shields* (Agents for the Continent, SALOMON & JACOBSON, 14, *Deichstrasse, Hamburg*).—Pressed Table Glass, suitable for exportation. (363)

AIRE AND CALDER GLASS BOTTLE COMPANY, *Castleford, Yorkshire*.—Glass Bottles for Aërated Waters, with patent self-acting stoppers; Bottles used for Wine and Spirits, with patent stoppers and packing cases; Bottles used for Medicine, Perfumery, Oils, Preserves, Pickles, Sauces, &c.; Monster Bottles and Carboys. (364)

PELLATT & WOOD, 25, *Baker Street, Portman Square, London*.—Engraved and Cut Glass; Samples of Table Glass, and Services of new forms and designs; Plain Thin Glass; and New Light Cut Glass Designs; China and Earthenware Breakfast, Dinner, and Dessert Services; Paternœ and Vases; Jardinières; Figures in Terra-Cotta, with Persian Blue Glaze, and New Persian Glaze Ware. (365)

PELLATT & COMPANY, *Falcon Glass Works, Blackfriars, London*.—Plain and Cut Crystal Glass; Table Services; Patterns of Glass for Railway and other purposes; Specimens of Lapidary Cutting in imitation of celebrated Diamonds. (366)

BOUCHER, GUY & COMPANY, 128, *Leadenhall Street, London*.—Glass, cut and engraved; China and Earthenware. (367)

(See Appendix.)

CODD, H., (Per Messrs. Dows, Clark, & Co.), *Grove Lane, Camberwell*,

London.—Patent Stoppered Bottles for Aërated Waters. (368)

ROYAL PORCELAIN WORKS, *Worcester*.—Porcelain, Ivory Porcelain, Majolica, Enamelled Terra-Cotta; Vitreous Stoneware and Fine Earthenware. (369)

MINTONS, *Stoke-upon-Trent, and 28, Walbrook, London*.—China and Earthenware Dinner, Dessert, Tea, and Toilet Services, China, Majolica, and Parian Vases, Statuettes, and other Ornaments; Enamelled Tiles for walls, grates, hearths, and flower boxes. (370)

MORTLOCK, JOHN, 203, 204, *Oxford Street, London*.—China Breakfast, Dinner, Dessert, and Tea Services, manufactured by Minton; Stone China Dinner Services of Minton, and Wedgwood Ware;

Vases, &c., painted by Solon, Mussill, Coleman, and others; Majolica Garden Seats and Vases; Service of Engraved Glass, executed for the Earl of Dufferin, Governor-General of Canada; Glass Bird Cages. (371)

BROWN - WESTHEAD, T. C. MOORE & COMPANY, *Cauldon Place, Hanley, Staffordshire*.—Fine Earthenware and Porcelain, and "Viennese" Earthenware for table use; Majolica, and Jasper Vases, &c.; Specimens of Painting under Glaze. (372)

SIMPSON, W. B., & SONS, 456, *West Strand, London*.—Chimney Piece of Art Tiles and Walnut Wood, with tiled sides, arranged for open grate. (373)

BARLOW, THOMAS, *Loughton, Staffordshire*.—China. (379)

GROUP X.

Small Ware and Fancy Goods.

MANUFACTURES OF IVORY, MEERSHAUM, TORTOISE-SHELL, MOTHER-OF-PEARL, WHALEBONE, WAX WARES, JAPANNED GOODS, &c. FANCY GOODS, OF LEATHER, BRONZE, &c. UMBRELLAS, PARASOLS, FANS, CANES, WHIPS, &c. COMBS AND BRUSHES. TOYS. PROCESSES AND INVENTIONS USED IN THE PRODUCTION OF MANUFACTURES. STATISTICS OF PRODUCTION.

ATKINSON, J. & E., 24, *Old Bond Street, London*.—Ivory and Tortoise-shell Goods. (47)

COLLINGS & WALLIS, *King Edward's Road, Birmingham*.—Japanned Trays, Waiters, Coal Scuttles, Toilet Ware, Cash Boxes, Candlesticks; Japanned Papier-Mâché Tables, Writing Desks, Trays, Ink-stands, &c.; Japanned Iron and Pearl Vases. (257)

SCHLETTER & COMPANY, *Birmingham*.—Ivory and Pearl Shell Work; Umbrellas, Combs, &c. (217)

SAGE, F., 80 to 84, *Gray's Inn Road, London*.—Fancy Stands for Jewellery. (751)

JEFFREYS, CHARLES, 103, *Hatton Garden, London*.—Velvet Jewellery-Stands and Cases. (753)

SANGSTER & COMPANY, 140, *Regent Street*; 10, *Royal Exchange*; 94, *Fleet Street*, and 75, *Cheapside, London*.—Umbrellas, Parasols and Sunshades. (380)

SWAINE & ADENEY, 185, *Piccadilly, London*.—Whips, Riding and Walking Canes and Sticks. (211)

KENT, G. B., & COMPANY, *Great Marlborough Street, London*.—Brushes for the Toilet, for the Stable, and for Painters. (381)

(See Appendix.)

STEWART, S. R., & COMPANY, *Aberdeen Comb Works, Aberdeen*.—Combs of all kinds in Tortoiseshell, Horn, and Vulcanite; Horn Spoons, Drinking Cups, and Druggists' Scoops; Vulcanite Bracelets, Chains, Ornaments, &c. (382)

(See Appendix.)

LEWIS, E. W., 4, *Sherwood Crescent, Upper Westbourne Park, London*.—Gyroscopes; Aërial, Scientific, Mechanical and other Toys. (383)

BINKO, H. BOCK, 183, *City Road, London*.—Toys. (384)

CREMER, W. H., 210, *Regent Street, London*.—Toys and Games. (386)

SMITH & WRIGHT, *Birmingham*.—Buttons, Gilt Jewellery, and Dress Ornaments.

GROUP XI.

Paper Industry and Stationery.

PAPER PULP, PAPER, AND PASTEBOARD. COLOURED PAPERS, PAPER HANGINGS, TAPESTRY, PLAYING CARDS, &c. PAPER-MÂCHÉ GOODS, CARD, AND MILLBOARD. ARTICLES FOR WRITING, DRAWING AND PAINTING. BOOKBINDING AND SIMILAR WORK. PROCESSES AND MANUFACTURES USED IN THE PRODUCTION OF THE ABOVE MANUFACTURES. STATISTICS OF PRODUCTION.

SAUNDERS, T. H., *Dartford, Kent*.—Water-marked Hand-made Papers for Bonds, Banknotes, Shares, &c.; Artistic Designs in Watermark; Hand-made Papers for Drawing, Account Books, Correspondence, &c.; Loan and Parchment Paper; Machine-made Papers for Writing and Printing; Safety-coloured Paper for Cheques; Blotting Paper, white and coloured. (391)

McNICOL, J., 97, *Buchanan Street, Glasgow*.—Chemical Wood Pulp, and Paper made from it. (392)

LEE, JAMES ABRAHAM, *Severn Ironworks, Lydney, Gloucestershire*.—Paper made from wood alone, with specimens of the pulp bleached, unbleached, &c. (393)

COWAN, ALEXANDER, & SONS, *Valley Field Mills, Edinburgh*.—Writing

Papers of various qualities; Envelopes made from Cotton and Linen Rags, and Esparto Fibre, gelatine sized; Account Book Papers made from Rags, double sized; Rags, Esparto, Half-stuff, &c., employed in paper-making; Buffalo Skins used in gelatine sizing; Photographs illustrative of the various processes in paper making. (394)

PORTAL, W. S. & R., *Laverstoke Mills, Micheldever, Hampshire*.—Bank of England Note and other Watermarked Papers. (395)

PATENT WATERPROOF PAPER & CORRUGATED FIBRE COMPANY, *Old Mill, Farnworth, near Widnes, Lancashire*.—Paper, Paper Tubes, and Cart-ridge Cases, waterproofed. (408)

ENGLISH, JAMES, & COMPANY, 22 & 23, *Budge Row, Cannon Street, London*.—Playing Cards. (396)

WEBSTER, H., *Litchfield Street, Soho, London*.—Inkstands, &c. (397)

LYONS, WILLIAM, *Park Street, Manchester*.—Writing and Copying Inks, black and coloured, and Sealing Wax. (398)

STEPHENS, H. C., 171, *Aldersgate Street, London*.—Inks, Writing Fluids, Copying Inks, Ink Powders, Gum Mucilage, Inkstands, Parallel Rulers, Quills, Pens, Sealing Wax, &c. (399)

NEWMAN, JAMES, 24, *Soho Square, London*.—Artists' Water Colours, dry and moist; Oil Colours and Materials for Oil Painting; Brushes, Drawing Paper, &c. (400)

BINKO, H. BOCK, 183, *City Road, London*.—Spectograph or Optical Drawing Apparatus, Apparatus for Drawing Ellipses, Apparatus for Reducing or Enlarging Draw-

ings, Black and Coloured Writing Inks, and Marking Ink. (384)

BLACKWOOD, J., & COMPANY, 18, *Bread Street Hill, London*.—Copying and other Writing Inks; Marking Ink called "Jetoline"; Clarified Gums. (402)

HILL, H., & SONS, 38, *Bow Lane, and 30, Watling Street, London*.—Quills, Quill Pens, Nib Pens, Toothpicks, Sealing Wax, Wafers, Pencils; Quills for Paint Brushes and Fishing Tackle; Stationery Cases, Ivory Paper Knives, Sponge, India-Rubber, and Marble Paper Weights; Feathers for Beds, Shuttlecocks, Fancy Flowers, &c.; Wings of various Birds. (403)

ZAEHNSDORF, JOSEPH, 36, *Catherine Street, Strand, (late 30, Brydges Street,) London*.—Bookbinding, artistic and general. (404)
(See Appendix.)

GROUP XII.

Graphic Arts and Industrial Drawing.

BOOK PRINTING. XYLOGRAPHY. COPPER-PLATE AND STEEL-PLATE PRINTING. LITHOGRAPHY AND CHROMO-LITHOGRAPHY. PHOTOGRAPHY. ENGRAVING AND GUILLOCHE WORK. PATTERN-DRAWING AND DRAWING FOR DECORATION. TOOLS AND APPARATUS. STATISTICS OF PRODUCTION.

STEPHENSON, BLAKE & COMPANY, *Sheffield*.—Printing Types, plain and ornamental; Types for Ribbon and Scroll Designs. (410)

BRITISH & FOREIGN BIBLE SOCIETY, *Queen Victoria Street, Blackfriars, London*.—Bibles printed in forty-eight languages; the New Testament in eighty-seven languages; portions of the Holy Scriptures in sixty-six languages. (411)

RELIGIOUS TRACT SOCIETY, *Paternoster Row, London*.—Religious Books and Tracts, and Illustrated Periodicals for adults and children, in all the European and Indian languages, and in North American Indian, and African languages. (411)

REED & FOX, 4, *Fann Street, Aldersgate Street, London*.—Specimen Book of Printing Types. (385)

SUNDAY SCHOOL UNION, 56, *Old Bailey, London*.—Printed Books, Sheets, Cards, &c., used in Sunday Schools. (413)

AUGENER, G., & COMPANY, *Beethoven House, 86, Newgate Street, London*.—Printed Music. (409)

WHITE, JOHN, *King Street, Stroud, Gloucestershire*.—Printed Ecclesiastical Music. (388)

GRANT & COMPANY, 72 to 78, *Turnmill Street, London, and 2, Rue Drouot, Paris*.—Letterpress and Lithographic Printing, plain and in colours; Fine Art Printing; Illuminated Cards, Show Boards; Wood Engraving; Enamelled Iron Tablets. (10)

JOHNSON, J. M., & SONS, 3, *Castile Street, Holborn; Steam Printing Works, 56, Hatton Garden, London*.—Catalogue of the British Section of the Exhibition; "Crystal," "Chromo-fulgent," Indestructible Iron, and other Show Tablets; Posters, and General Printing in Colours. (433)

See Appendix.

BARTHOLOMEW, JOHN, 17, *Brown Square, Edinburgh*.—Map Engraving and Colour Printing for Atlases, educational and other purposes. (414)

DAY, JOHN B., *Savoy Street, Strand, London*.—Chromo-Lithographs. (415)

JOHNSTON, W. & A. K., 4, *St. Andrew's Square, Edinburgh*.—Human Anatomy and Physiology, in two large Sheets; Illustrations of Botany, in four large Sheets. (416)

LEIGHTON, JOHN, F.S.A., 12, *Ormonde Terrace, Regent's Park, London*.—Maps of London, Paris, and Vienna, hexagonally indexed in English Miles for the purpose of Municipal Government, Imperial Administration, Cab Fares, &c. (407)

BROWNRIGG, T. M., 32, *Lower Leeson Street, Dublin*.—Photographs. (417)

GODBOLD, H. J., 8, *Grand Parade, Saint Leonards-on-Sea*.—Photographs. (418)

HAES, FRANK, 41, *St. George's Place, Hyde Park Corner, London*.—Photographs of Wild Animals, enlarged by the Autotype Process from small negatives taken in the Zoological Society's Gardens, London. (419)

BEASLEY, F., JUN., 30, *Upper Hamilton Terrace, St. John's Wood, London*.—Photographs taken by a dry process, showing the number of days between preparation and exposure, and also between exposure and development; Views of English and Irish Scenery, &c. (420)

TWYMAN, C., 36, *High Street, Ramsgate*.—Photographs. (421)

ROBINSON, H. P., & CHERRILL, N. K., *Tunbridge Wells*.—Photographs. (422)

FERNELEY, CHARLES A., *Scalford Road, Melton Mowbray*.—Photograph Lantern Slides—English Scenery. (423)

HARE, GEORGE, 1 *Lower Calthorpe Street, London*.—Photographic Apparatus, Cameras, Graphoscopes, Stereoscopes, &c. (424)

LONDON STEREOSCOPIC AND PHOTOGRAPHIC COMPANY, 110 and 108, *Regent Street, and 54, Cheapside, London*.—Photographic Portraits of English Statesmen, Divines, Literary and Scientific men, Dramatic Celebrities; Stereographs of Rustic Scenes in England, and two large views of International Exhibition, 1872. (425.)

CAMERON, MRS. JULIA M., *Freshwater Bay, Isle of Wight*.—Photographs, Portraits, and Studies, from Life. (426.)

STUART-WORTLEY, COLONEL, *Rossllyn House, Grove End Road, London*.—Photographs on Uranium dry plates; Photographs from nature and from life. (427.)

CRAWSHAY, R. J., *Cyfarthfa, Merthyr Tydvil, Wales*.—Photographs. (828.)

WANE, MARSHALL, 4, *Finch Road, Douglas, Isle of Man*.—Photographic Portraits and Composition Groups. (389.)

HEATH, VERNON, & COMPANY, 43, *Piccadilly, London*.—Landscape Autotypes, enlarged from negatives 12 inches by 10. (390.)

McLACHLAN, LACHLAN, 9, *Cross Street, Manchester*.—Photograph representing the Central Executive Cotton Famine Relief Fund, sitting at the Town Hall, Manchester; the portraits taken from the life. (150.)

HARMAN, J. S., 87, *New Bond Street, London*.—Photographs. (203.)

LEMERE, BEDFORD, 147, *Strand, London*.—Architectural Photographs. Details of Westminster Abbey, and Salisbury, Lincoln, Hereford, and Llandaff Cathedrals, and of Mansions. (204.)

LEWIS, ABEL, *Douglas, Isle of Man*.—Photographs of young children. (205.)

BEAU, ADOLPHE, *Regent Street, London*.—Photographs. (615.)

PERMANENT PRINTING COMPANY, 9a, *Hereford Square, London*.—Photographs in permanent colours (Lent for

the use of the Royal Commission for Decoration of the Workmen's Dwellings).

WYON, J. S. & A. B., 287, *Regent Street, London*.—Engraving and Illumination; Specimens of Engraving, including the Great Seal of England, Great Seal of Canada; Dies for paper, Arms, Monograms, &c., stamped in colours and illuminated; Book Labels, &c.; Reductions in Steel (untouched) from models in relief, or in intaglio; Paintings of Arms and other designs. (430.)

BLADES, EAST & BLADES, 11, *Abchurch Lane, London*.—Bank Note Engraving, with microscopic work for prevention of forgery. (431.)

DE LEON, M., & COMPANY, 24, *Rathbone Place, London*.—Dies and Stamps; Self-acting and Self-inking Dating, Numbering, Endorsing, and Paging Machines; Stencil Plates, Brass-faced Type, and Marking Ink. (431.)

SMITH, W., 309, *Regent Street, London*.—Hard Metal Type for marking linen; Stencil Plates and Ink. (432.)

GROUP XIII.

General Machinery.

PRIME MOVERS (Steam Generators, Steam-Engines, Water-Wheels, Turbines, Pressure-Engines, Air, Wind, and Electro-Magnetic Engines, Gas Machines). MACHINES FOR TRANSMITTING POWER (Shafts, Wheels, Pulleys, Bands, &c.). MACHINES FOR WORKING SPECIAL KINDS OF MATERIALS (Machines for Mining, Metallurgy, Metal Work, and Wood Work; Machines for Spinning, Weaving, Knitting Sewing, and Embroidering; Machines for Fulling, Cleansing, Shearing, Dyeing; Machines for Bleaching, Leather-Dressing, &c.; Machines for Paper Manufactures and Bookbinding, for Type-Founding, Printing, Lithography, Copper-Plate Printing, Colour Printing, &c.; Machines and Apparatus for Sugar-Making, Oil Manufacture, Breweries, Distilleries, Stearine, Soup, Candles, Starch, Ice-Making, Match-Making, Corn Mills, and Agricultural Machinery and Apparatus). OTHER MACHINERY NOT BELONGING TO THE ABOVE-MENTIONED (Blast Engines, Fire Engines, Pumps, Ventilators, &c.). MATERIALS AND PARTS OF MACHINERY. RAILWAY MACHINERY (Locomotives, Tenders, Railway Velocipedes and parts of them, Railway Carriages and parts composing them, Special Machinery and Apparatus for Railway Workshops and Railway Contrivances; for making and maintaining Railway Plant; Snow Ploughs, &c.). STEAM GAUGES, DYNAMOMETERS, TRADIOMETERS, &c. ALL SORTS OF VEHICLES NOT CONCERNED WITH RAIL. STATISTICS OF PRODUCTION.

PENN, JOHN, & SONS, *Greenwich*.—Model of Pair of Trunk Engines, of 1,350 horse-power, nominal, as fitted to H.M. iron-clad ships, "Minotaur" and "Northumberland." (440)

POWIS, CHARLES, & CO., *Cyclops Works, Millwall Pier, and 60, Gracechurch-street, London*.—Twenty-horse Power Double Cylinder Steam Engine; Steam Crane; Wood-working Machinery. (441)

HOWARD, J. & F., *Bedford*.—Patent Safety Steam Boiler. (442)

DERHAM, JOHN J., *Blackburn*.—Horizontal High Pressure Expansion Steam Engine of 20-horse power nominal, driving Printing Machinery; Horizontal High-Pressure Patent Expansion Steam Engine of 25-horse power nominal, driving Wood Working Machinery; Patent Atmospheric Hammer. (443)
(See Appendix.)

PATENT GAS COMPANY, 25, *Fenchurch Street, London*.—Apparatus for the Manufacture of Gas, by Eveleigh's Patented Process. (444)

SPICE, R. P., C.E., 21, *Parliament Street, London*.—Working Apparatus for Making Gas for Heating and Illumination. (445)

GALLOWAY, W. J., & SONS, *Knot Mill Iron Works, Manchester*.—Two "Galloway" Steam Boilers, and Steam Engine. (Lent for the use of Her Majesty's Commissioners.) (446)

READING IRON WORKS, (LIMITED), *Reading, Berkshire*.—Steam Engines from 2 to 25-horse power, High Pressure and Condensing. (447)

CLARKSON BROTHERS (per John McNicol), *Glasgow*.—Self-acting Steam Pumping Engines. (392)

CATER & WALKER, *Grove Steam Boiler Works, Southwark, London*.—Patent Multitubular Steam Boiler, of 50-horse power, with Fittings, at work in British Boiler House, at the Exhibition. (448)

GLOVER, GEORGE, & COMPANY, *Ranelagh Road, Pimlico, London*.—National Standard Gasometers, similar to those supplied to Her Britannic Majesty's Government and to the Government of the Netherlands; Dry Gas Meters; and Gas Apparatus. (449)

ADAMSON, DANIEL, & COMPANY, *Engineering Works, Hyde Junction, near Manchester*.—Steam Boilers—two of 40-horse power each, one with Steel Shell Plates, Solid Welded Flue-rings and Circu-

lating Pipes; Hydraulic Jacks for Lifting Boilers of 10 to 30 tons weight. (450)

NORRIS, S. E., & COMPANY, 56, 57, 58, and 174, *High Street, Shadwell, London*.—Leather Driving Bands for Machinery; Leather Hose for Fire Engines; Buckets; Pump and Hydraulic Leathers; Strap Butts, &c. (451)

HOLGATE, J., & COMPANY, 33, *Great Dover Street, London*.—Leather Machine Bands; Fire Hose, Buckets, &c. (452)

EDWARDS, W. J., 20, *Market Place, Manchester*.—Leather Driving Bands, made from best English leather, and without cross joints. Manufactured by the patentees, Sampson and Company, Stroud, Gloucestershire. (453)

HEAD, WRIGHTSON & COMPANY, *Teesdale Iron Works, Stockton-on-Tees*.—Hoists, Moore & Head's patent; Pulley Blocks, Moore's patent. (454)
(See Appendix.)

PICKERING, JONATHAN, *Stockton-on-Tees*.—Patent Pulley Blocks, Sack Hoists, and Procter's Patent Spring Hammers, for hand and steam power. (606)

HUDSWELL, CLARKE & ROGERS, *Railway Works, Leeds*.—Patent Wrought Iron Driving Pulley. (564)

WEBB & SON, *Stowmarket*.—Leather Machine Bands, Fire Buckets and Hose. (209)

POWIS, JAMES, WESTERN & COMPANY, *Victoria Works, Belvedere Road, Lambeth, London*.—Wood Planing, Moulding, Tongueing and Grooving, Tenoning, Mortising, and Boring Machinery; Sawing Machinery of various kinds; Band-saw Machine for Cutting Iron; Stone Moulded and Planed by Machinery; Driving Belts. (455)

PLATT, BROTHERS & COMPANY, *Hartford Iron Works, Oldham*.—Wool-carding, Preparing, Spinning and

Weaving Machinery; Cotton Ginning and Combing Machines. (456)

TANGYE BROTHERS & HOLMAN, 10, *Laurence Pountney Lane, London*.—Steam Engine, 12-horse power, Tangye's patent, horizontal high pressure with variable expansion gear; Steam Pump, direct action, with 14-inch steam or air cylinder, 12-inch water cylinder, and 24-inch stroke; Lifting Jacks, Pulley Block, &c. (Lent to the Royal Commission for use.) (457)

SALTER, HENRY, 11, *Pancras Lane, London*.—Sewing Machine for Welting and Soleing Boots and Shoes. (458)

COMBE & BARBOUR, *Falls Foundry, Belfast, Ireland*.—Flax Machinery and Tools; Combe's Patent Hackling Machine, Spreader, Drawing Frame, Roving Frame, Cop Machine, Fluting Machine. Lathe for wood rollers, Patterns, &c. (460)

LIVESEY, HENRY, *Greenbank, Blackburn*.—Machine for winding from pin-cops and coloured Yarns from the Hank, and for unknitting heddles for re-use, with case of sample shuttles, bobbins, pickers, &c.; Drawings of Power Looms. (461)

BROUGHTON COPPER COMPANY, *Manchester*.—Calico Printing Rollers for garments and handkerchiefs, in copper and brass; Copper and brass tubes for steam, gas, water, condensers, &c., seamless and brazed; Copper Singeing Plates for dressing calico; Bolts and Plates for locomotive fire-boxes; Copper and Brass ingots, plates, strips, &c. (462)

NUSSEY & PILLING, *Park Works, Leeds*.—Sewing Machines. (463)

BAINES, W. N., *Lancefield Street, Glasgow*.—Steam Fittings in iron and gun-metal; Valves, Whistles, Water Gauges, Gauge Cocks, Grease Cocks, Oil Syphons, &c. (464)

MASSEY, B. & S., *Openshaw Canal Ironworks, Manchester*.—Steam Hammers; 5 cwt. Hammer, double-acting, self-acting, and hand-worked, for the use of engineers, shipbuilders, wagon makers, and others;

1½ cwt. Hammer for machinists, implement makers, and others; ½ cwt. Hammer, can be worked by hand or foot, for file makers, cutlers, bolt makers, and others; 3 cwt. "Special Steam Stamp" for stamping bolts, rivets, studs, shovels, and other articles. (465)

TICKLE, R. P., 3, *Poppin's Court, Fleet Street, London*.—Iron Bed for Mounting Stereotype or other plates for printing. (466)

BACON, G. W., & COMPANY, 127, *Strand, London*.—Beckwith's Portable Sewing Machine. (467)

LAWSON, S., & SONS, *Hope Foundry, Leeds*.—Spinning Machinery for Hemp, Jute, and Flax; Tow Carding Engine, &c. (*See Appendix.*) (468)

STERNE, L., & COMPANY, 9, *Victoria Chambers, Westminster*.—Electro-Magnetic adaptations to Machine Tools; Lathes, Planing, Drilling, and Slotting Machines; Steel Spiral Railway Springs, with India-Rubber centres and Junction Rubber Buffers. (469)

DE BERGUE, C., & COMPANY, 10, *Strand, London*; *Strangeways Works, Manchester*; and *Wauntreoda Works, near Cardiff*.—Boiler and Girder Rivetting Machines; Rivet Making Machines; Punching and Shearing Machines; Patent Permanent Way; Permanent Way Levellers, &c. (470)
(*See Appendix.*)

GWYNNE, J. & H., *Hammersmith Ironworks, London*.—Centrifugal Irrigation Pump, as used in Austria and Hungary, throwing 1,800 gallons per minute; Centrifugal Irrigation Pump, as used in Egypt and India, capable of lifting 3,000 gallons a minute 30 feet high; other Centrifugal Pumps, throwing from 100 to 3,000 gallons per minute. (471)

BRADFORD, THOMAS, & COMPANY, 63, *Fleet Street, London*.—Washing, Wringing, Drying, Starching, Mangling, and Calendering Machinery. (472)
(*See Appendix.*)

BATEMAN, DANIEL, & SONS, *Lowmoor, Bradford*.—Improved Angular Wire

Cards for Carding Cotton Wool and other Fibrous Substances. (433)

MATHER & PLATT, *Salford Iron Works, Manchester*.—Twelve Colour Calico Printing Machine, with Double Cylinder Diagonal Engine and Driving Gear. (434)
(*See Appendix.*)

WORSSAM, SAMUEL & COMPANY, *Oakley Works, King's Road, Chelsea, London*.—Wood-working Machinery for sawing, planing, moulding, mitreing, and trying up; with Saw-sharpening Machine and Grinding Apparatus. (473)

RANSOME, A., & COMPANY, 304, *King's Road, Chelsea, London*.—Wood Working Machines; Vertical Saw Frames, Circular Saw Benches, Band, and Saw Machines; Planing, Moulding, Shaping, Recessing, Mortising, Tenoning, and Mitreing Machines; General Joiner's Machine; Saw Sharpening Machine; Arrangement for removing instantaneously shavings, dust, and light refuse from machinery. (474)

HUXHAMS & BROWN, *Commercial Road, Exeter*.—Mill to grind Bark for tanyards and leather dressers, by horse or steam power; Machine to roll Leather by steam power; Mill for mixing Mortar or Concrete by hand or by steam; Planing Machine for iron. (213)

SUMNER, J. M., & COMPANY, 2, *Brazenose Street, Manchester*.—Calico Machine; Pentagraph Engraving Printing Machine for cylinders, copper printing rollers, and other articles used by calico printers. (475)

WILLIAMSON, W., 133, *High Holborn, London*.—Dyers' and Bleachers' Machines for scouring, cleaning, and water extracting; Washing, Wringing and Mangling Machines; Drawings of Drying Closets and Finishing Machinery. (476)

THWAITES & CARBUTT, *Vulcan Ironworks, Bradford, Yorkshire*.—Double-action Steam Tilt Hammer, 7 cwt., with rapid Self-acting Motion. Roots' Patent Rotary Blowing Machine with 15-horse power Vertical Engine combined. (477)

HOMES & HICKTON, *Halesowen, near Birmingham*.—Chains of various kinds; Clip Hooks and Thimbles; Coupling Shackles; Ship Ironwork, Horse Shoe and other Nails. (478)

KERR, PRICE, & COMPANY, *Underwood and Oakshaw Mills, Paisley*.—Spooling Machine, showing the process of winding cotton on the reel; Weild's Self-acting Spooling Machine. (479)

COLLIER, LUKE, *Wellington Works, Rochdale*.—Confectionery and Biscuit-making Machinery for steam and hand power. (480)

CROPPER, H. S., & COMPANY, *Hockley Mill, Nottingham*.—Platen Printing Machine called the "Minerva," with steam engine to drive it. (481)

BROTHERHOOD & HARDINGHAM, 56 and 53, *Compton Street, Goswell Road, London*.—Helical Pump (Boulton and Imray's Patent), with direct acting "Paragon" three Cylinder Engine, shown in operation; "Paragon" Steam Pump in action; 35-horse power "Paragon" Three Cylinder Stationary Engine; Refrigerator for Breweries; Gyroscopic Steam Governor, and Steam Throttle Valve. (482.)

WILSON, A., & SON, *Vauxhall Iron Works, Wandsworth Road, London*.—Steam Pumps. (434)

(See Appendix)

VICTORY PRINTING & FOLDING MACHINE COMPANY, *Speland Street, Windsor, and 1, North John Street, Liverpool*.—Machine for Printing from paper in the roll or web, and delivering the same printed and folded; Machine for Damping the Paper before being printed; Apparatus for Stereotyping and making the stereotype plates used in the printing. (483)

AVELING & PORTER, 72, *Canon Street, London, and Rochester, Kent*.—Road Locomotive Crane Engine for lifting, hauling, and carrying heavy weights. (484)

CLAYTON & SHUTTLEWORTH, *Stamp End Works, Lincoln; and at Vienna,*

Pesth, Prague, and Lemberg.—Portable and fixed Steam Engines and Traction Engines. (568)

WATSON, HENRY, *Highbridge, Works, Newcastle-on-Tyne*.—Paper-making Machinery; Revolving Straining Apparatus, with Vat complete. Miner's Safety Lamps, used in the coal mines near Newcastle-on-Tyne. (486)

NEW, D., & COMPANY, *Moscow Works, Nottingham*.—Lathes for Railway Wheels, Axles, &c.; Radial and other Drilling Machines; Planing, Slotting, and Shaping Machines; Pillar, Standard, and Horizontal Steam Engines, and Brass Steam Fittings. (487)

ENTWISLE & KENYON, *Eubank Works, Accrington*.—Cotton Machinery; Self-acting Heald Knitting Machine. (488)

ROBINSON, T., & SON, *Railway Works, Rochdale*.—Wood-working Machinery, for Sawing, Planing, Moulding, Boring, Mortising, Dovetailing, &c., with Tool-grinding Machines. (489)

WANZER, R. M., & COMPANY, *Hamilton, Canada (represented by Doubleday, Son, & Co., Hamburg)*.—Sewing Machines. (490)

(See Appendix.)

CLARK & COMPANY, *Anchor, Thread Works, Paisley*.—Self-Acting Spooling Machine for Winding Sewing Thread on Small Bobbins or Spools. (124)

HUGHES & KIMBER, *West Harding Street, Fetter Lane, London*.—Printing Machinery.—Lithographic Cylinder Machine; "Wharfedale" Letter-press Cylinder Machine; "Paragon" Letter-press Machine; Platen Printing Machine; Lithographic Printing Press; Guillotine Paper Cutting Machine; Rolling, Glazing, Perforating, and Paging Machines; Photographic Glazing Machine; Vertical Steam Engine and Boiler. (491)

FLEMING, T., & SON, *West Grove Mills, Halifax*.—Cards for Carding, Flax, Tow, Jute, China Grass, Hemp, Cotton,

Wool, Mungo, and all other waste fibres. (492)

BARRACLOUGH, THOS., 10, *St. James's Square, Manchester*.—Spinning Machines for Twines, Cords, Ropes, of Hemp, Flax, Jute, &c.; Hackles; Woollen Rag-tearing Machines; Cotton and Woollen Yarn Printing Machine; Reed-making Machine; Wire Healds for weaving all descriptions of goods; Portable Drilling Machines; Ventilator for Mills; Blower for Furnaces. (493)

BERGIUS, W. C., 103, *West Regent Street, Glasgow*.—Models of Machinery. (494)

APPLEBY BROTHERS, *Emerson Street, Southwark, London*.—Steam Crane to lift 5 tons—travelling, turning, and with variable radius, price 630*l.*; Steam Feed Pump, 12*l.* 10*s.* (495)

BELL, ANDREW, 49, *Blackfriars Street, Manchester*.—Fuel Economiser, for utilising the waste heat from steam boilers. (496)

DUDGEON, A., 22, *Great George Street, Westminster*.—Distilling and Rectifying Apparatus (Drawings, Models, &c.) (436)

LOCKETT, LEAKE & COMPANY, *Strangeways, Salford, Manchester*.—Double Bar Pentagraph Machine, for engraving cylinders, with recent improvements and additions. (437)

GORDON, LIEUT.-COL., R.E.—Lath-rending, Veneer Cutting, and Embossing Machine. (438)

EASTONS & ANDERSON, *Grove, Southwark Street, London*.—Appold's Breaks, of 10 and 20-horse power, for testing the power of steam engines and other prime movers. (234)

McNAUGHT, JOHN & WILLIAM, *St. George's Foundry, Rochdale*.—Wool-washing and Wool-drying Machines. (439)

DERHAM, T. S., 15, *Blenheim Terrace, Leeds*.—Brickmaking Machine, and Model of Brick-kiln for saving fuel. (498)

DOWS, CLARK & COMPANY, *Bedford Street and Chandos Street, Strand, London*.—Soda Water Machinery and Accessories; Iced Cream Soda Water Apparatus, Gazogenes, Syphons, Filters, &c. (499)

FLETCHER, LOWNDES & COMPANY, 13*a*, *Great George Street, Westminster, London*.—Roof of Dows, Clark, and Company's Pavilion, constructed on tubular ribs.

WILSON, J. H., & COMPANY, *Cornhill, Liverpool*.—Locomotive Steam Derrick Crane (2 tons), revolves, travels, and raises and lowers the jib by steam power; Double Cylinder Horizontal Winding Engine, suitable also for pumping and driving machinery. (500)

HODGSON, GEORGE, *Bradford, Yorkshire*.—Power Looms—Plain Loom of simplest construction for great speed, for weaving Alpaca, Mohair, Silk and Worsted, in 2 to 6 treads or shafts, or different patterns; Circular Box Loom with six shuttles, and Patent Stop Motion Loom specially adapted for weaving reps; Patent Loom for production of various figured fabrics up to sixteen healds. (502)

DONKIN, B., & COMPANY, *Bermondsey, London*.—Paper Making Machine, Model made to scale of one-eighth, and worked by means of a small turbine. (503)

SHARP, STEWART & COMPANY (LIMITED), *Atlas Works, Manchester*.—Machine Tools; Screwing, Planing, Slotting, Shaping, and Slot-drilling Machines; Lathe for boring tyres, and Drilling Machine for inside of railway wheel tyres; Injectors. (504)

HOLMES & TAYLOR, 12, *Buckingham Street, Strand, London*.—Submarine Grapple and Excavator. Break and Starter for Railway and other Carriages. (505)

McKEAN & COMPANY, 42, *Borough Road, London*.—Rock Boring Machine or Drill, with Air Compressor, Portable Steam Boiler, and Feed Pump for the same. (506)

HOLMES, J. E., 12, *Buckingham Street, Strand, London*.—Motive Power for driving Sewing Machines and other light Machinery, shown driving a Sewing Machine. (507)

WESTON, JOHN, 1, *Basinghall Street, London*.—Cigar-making Machine. (508)

HIND, H., & SON, *Queen's Road, Nottingham*.—Screw-cutting Gap Lathes, Slotting Machine, Shaping Machine, Planing Machine, Wall and Vertical Drilling Machines, Horizontal Boring Machine, Nut-turning Machine, Slotting Machine for Nuts, Parallel and Portable Vices, Chucks, &c. (509)

SCOTT, GEORGE, L., *Crown Ironworks, Heywood Street, West Gorton, Manchester*.—Wheel-moulding Machine and Steam Ventilator for mines. (510)

BAXTER, W. H., *Elm Cottage, Brixton Hill, London*.—Automatic Weighing Machine for Corn and other Granular Substances, and for Liquids. (511)

DUNSTON ENGINE WORKS COMPANY, *Gateshead-on-Tyne*.—Archer's Stone Breaker; Newall's Steam Ore Crusher. (512)

KIRKSTALL FORGE COMPANY, *Leeds*.—Steam Hammers. (280)
(See Appendix.)

BRADBURY & COMPANY, *Oldham*.—Sewing and Embroidery Machines, adapted for various domestic and manufacturing purposes, such as the making of Hats, Caps, Boots, Millinery, and General Clothing; Appliances and Accessories for the Machines, &c., &c. (514)

(See Appendix.)

LAWRENCE, W., & COMPANY, 14, *St. Mary Axe, London*.—Refrigerators for cooling "Worts," Milk, and for purifying and cooling water; Mashers, Spargers, &c.; Models of Ships' and other Pumps; Model of Wood and Malortie's Patent Fuel Economizing Furnace; Water Boiling, Purifying, and Cooling Apparatus. [Lent to Her Majesty's Commissioners.] (515)

(See Appendix.)

DAVIS & PRIMROSE, 68, *Duke Street, Leith*.—Double-acting Steam Hammer for general forging purposes in smiths' shops. (516)

SIBREE, PETER, *Great Driffield, Yorkshire*.—Hydraulic Press for extracting Oils, with Steel Moveable Cylinders, and Double Pumps, Stops, &c. (517)

(See Appendix.)

BERTRAM, J., & SON, *Leith Walk Foundry, Edinburgh*.—Patent Apparatus for Straining Pulp for Paper Making. (518)

HOPTON, H., & SON, 67, *George Street, Euston Square, London*.—Bent Carriage Shafts, Wheels, Bent Woodwork, and other Materials of Carriage building. (519)

POWIS, C., & CO, *Cyclops Works, Milwall Pier, and 60, Gracechurch Street, London*.—Wood Working Machinery. (441)

ADAMS, R., 31, *Strutton Ground, Westminster*.—Portable Cooking Apparatus, called the "British Workman's Hotel," for baking and boiling meat, and baking, boiling and steaming vegetables, and for making tea and coffee; on wheels, and drawn by one horse. (522)

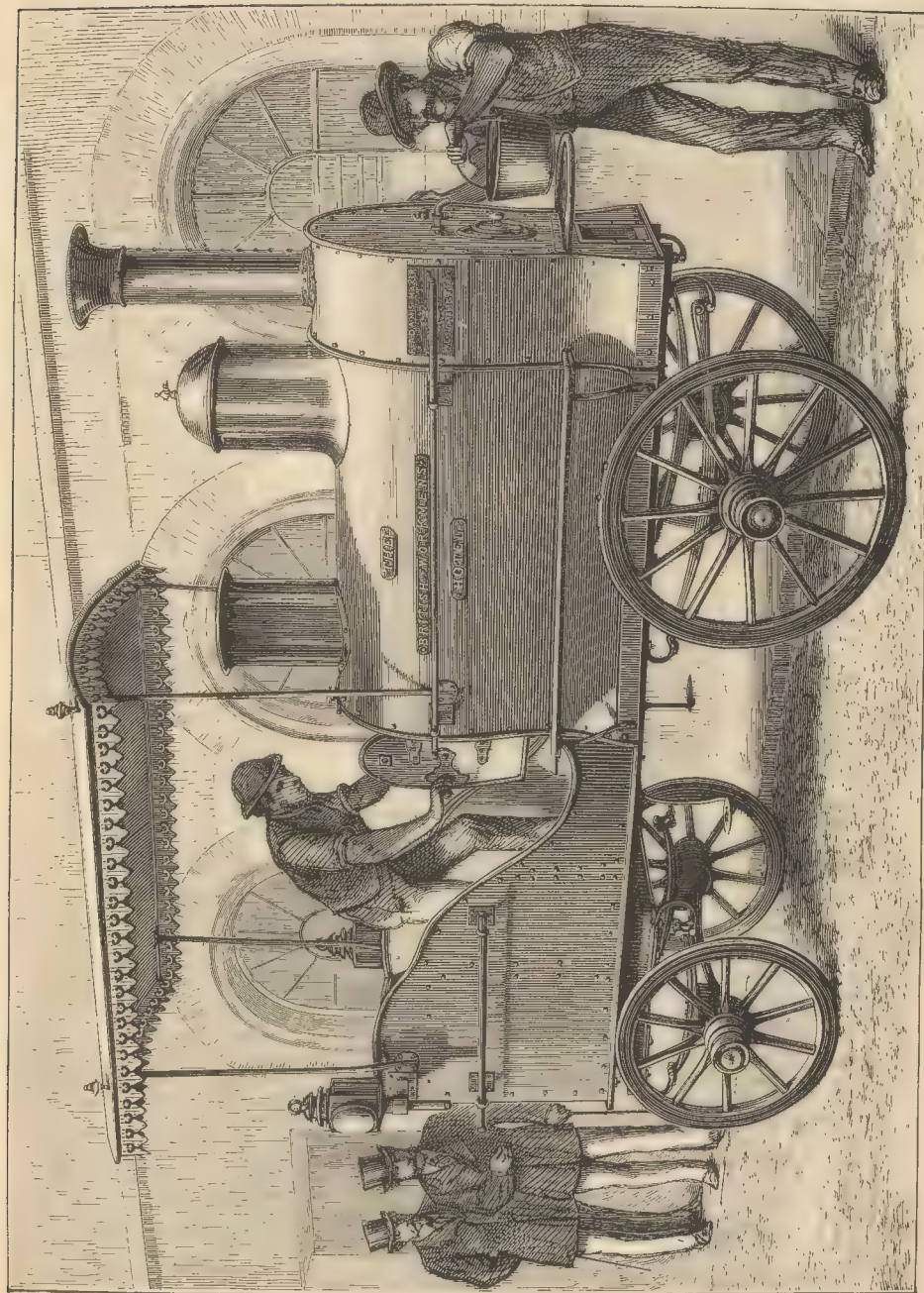
(See Illustration.)

DAVIES, D., *Viaduct Works, Crumlin, Newport, Monmouthshire*.—Patent Self-acting Steam Strikers of three sizes, may be worked also by compressed air or water, to replace ordinary hand strikers and constructed to strike at any angle to the face of the anvil; can be arranged to act upon a circle of four or more anvils or swage blocks. (497)

MOORE, J. & W., *Salisbury*.—Automaton Sewing Machine. (789)

HESLOP & WILSON, *Lombard Street, Newcastle-on-Tyne*.—Portable Steam Mill, for grinding or crushing ore, fettling mortar, clay, chalk, or chemical substances. (236)

ARMSTRONG, SIR W. G., & COMPANY, *Elswick Works, Newcastle-on-Tyne*.—Models of Pumping Engine, Accumulator, Hydraulic Crane, Hydraulic Jack,



"THE BRITISH WORKMEN'S HOTEL."

A complete Cooking Apparatus, designed and constructed for Her Majesty's Commissioners, by
RICHARD ADAMS, Strutton Ground, Westminster.

Hydraulic Capstan and Engine of a Bridge, and of Grain Distributing Machinery. (561)

TYLER, HAYWARD & CO., 84, *Whitecross Street, E.C.*—Patent Steam Pumps.

GWYNNE & COMPANY, *Essex Street Works, Strand, London.*—Gwynne's Patent Centrifugal Pumping Engine; Gwynne and Beale's Patent Combined Gas Exhauster and Engine; Double-Action Centrifugal Pumps; Hydraulic Rams; Girard's Patent Turbine Water Wheel; Hydraulic Engines. (523)

BROWN BROTHERS & COMPANY, *Rosebank Ironworks, Edinburgh.*—Steam Donkey Pump; Combined Steam and Hydraulic Crane. (524)

MERRYWEATHER & SONS, 63, *Long Acre, London.*—Steam and Hand Fire Engines, including such as are used by the London Fire Brigade. (Lent to the Royal Commission for use.) (525)

WARNER, J., & SONS, 8, *Crescent, Cripplegate, London.*—Hydraulic Machinery; Sanitary Apparatus; Hand, Steam, and Horse Power Pumps; Wind Engines; Water Wheels; Fire Engines; Hydraulic Rams; Garden Engines, &c.; Water Barrows; Boring Tools; Water-Closets, Lavatories, Urinals, Baths; Steam Engine Fittings; Bells. (526)

SHAND, MASON & COMPANY, 75, *Upper Ground Street, London.*—Steam and other Fire Engines, as used by the London Fire Brigade, &c. (Lent to the Royal Commission for use). Portable Fire Pumps; Hose, Pipes, Buckets, Helmets, and Implements used by Fire Brigades. (527)

BERNAYS, J., 96, *Newgate Street, London.*—Patent Improved Centrifugal Pump, with effective self lubrication to inner bearings of spindle. (528)

(See Appendix.)

HAYNES, T., & SONS, 227 to 231, *Edgeware Road, London.*—Pumps; Fire Engines; Patent Hydronette Fire Extinguisher, Garden Hose Barrow, Hose, &c. (529)

(See Appendix.)

TWIBILL, JOSEPH, *Chester Road, Manchester.*—Fuel Economiser for Steam Boilers, Plans and Drawings of same, Pipes for Steam Boilers, and Pipe Scrapers. (530)

PATENT MACHINE STONE DRESSING COMPANY (W. Payton, Manager), 21, *Great George Street, Westminster.*—Stone Dressing Machine and Apparatus. (531)

GABRIELLI, A., 4, *Westminster Chambers, London, and Bau-Unternehmung der Wasserleitung, Neue Markthalle, Vienna.*—Hydrants, and Service Hose for water closets; Air Cock and Air Valve, Self-acting, made by Simpson & Co., Pimlico, London; Ball Cocks, equilibrium, made by Lambert & Son, Lambeth, London; Screw and Street Cocks, made by Simpson & Co.; Bib and Stop Screw Down Cocks, and Loose Valve Cocks, made by Guest & Chrimer, Rotherham, England; Ferrules, Straight and Elbow, and Union Joints, made by Rock, Brothers & Taylor, Birmingham; Hydrants made by Simpson & Co., and John Barnes, Norwich; Hose, Hose-pipe, and Branch and Keys made by Simpson & Co.; Meters, Low Pressure, made by W. Parkinson & Co., Cottage Lane, London; Siemen's High Pressure Meter, made by Guest & Chrimes; Lead Pipes and Pipe Guards; Urinals made by G. Jennings, London; Water-pillar, with High Pressure Meter, &c., made by Guest & Chrimes; Water Closets complete, made by the City of Norwich Waterworks Co., and Guest & Chrimes. (533)

GREEN, EDWARD, & SON, 14, *St. Ann's Square, Manchester.*—Fuel Economiser, for using the waste heat of boilers. (534)

(See Appendix.)

MARSDEN, H. R., & COMPANY, *Soho Foundry, Leeds.*—Stone Breaker and Ore Pulverizer, for hand or steam power. (790)

PROSSER & WARD, 3, *Featherstone Buildings, London.*—Nozzles for Spreading Water for extinction of fires. (535)

MARQUIS, BROTHERS, *London Road, Glasgow.*—Centrifugal Pumps and Pumping Engines; Donkey Pump and Stop Valves; Horizontal Steam Engine. (536)

DENNIS & COMPANY, 19, *Holborn, London*.—Steam Sentinel; Improved Pneumatic Fire Extinguishers. (614)

KENNEDY'S PATENT WATER METER COMPANY, (LIMITED), *Kilmar-nock*.—Water Meters. (532)

JOHNSON & ELLINGTON, *Chester*.—Hydraulic Warehouse Crane, 25 cwt., with jib; Patent Duplex Whipping Hoist, 6 to 12 cwt., eighty lifts per hour, both worked by accumulators. (459)
(See Appendix.)

PAYTON, WILLIAM, 21, *Great George Street, Westminster*.—Safety and Relief Valves; Apparatus for moving and turning blocks of stone, and other heavy bodies. (559)

INGHAM, J., & SONS, *Thornton, near Bradford*.—Shuttles and Pickers for weaving and belting; Strappings and Springs for machinery. (537)

HOLT, H. P., C.E., *Royal Insurance Buildings, Leeds*.—Patent Combined Elastic Steel Diaphragm, and Relief Frame for equilibrating or balancing ordinary Slide Valves and Expansion Gear, applicable to all old and new Engines. (538)

HILL & SMITH, *Brierley Hill Iron Works, Staffordshire*.—Hammered Iron Engine Forgings, Shafts, Axles, and various kinds of Railway Ironwork. (293)

IRVIN & SELLERS, *Preston, Lancashire*.—Bobbins, Boxwood Bosses, Pickers, and Shuttles. (540)

SIMON, H., C.E., 7, *St. Peter's Square, Manchester*.—Ramps (Stroudley's patent), to facilitate the replacing of locomotives and carriages that have gone off the rails. (541)

WHITLEY PARTNERS, *Railway Works, Leeds*.—Steam Engine and Boiler Accessories; Allen's Steam Engine Governors and Valves; Peet's Valve Taps for Steam, Water, and Gas Pipes and Mains; Crossley & Hanson's Self-acting Reducing Valves; Berryman's Machines for Heating

and Regulating the Feed Water for Boilers; Berryman's Steam Traps; Waters's Feed Water Heaters; Patent Power Jumpers; Hanson's Variable Expansion Gear; The "Best" Steam Boilers; Rodgers's Wrought Iron Split Drums; Pitt's Centring and Facing Machines; Walkington's Compound Tool Boxes for Planing Machines; Martin's Anchors; Common's Automatic Apparatus for the prevention of pipes bursting from frost; Cameron's "Special" Steam Pumps; Field's Boiler Tubes; Field's Compound Engine; Westray's Portable Drills; Hodgson's Radial Hand Drills; Denison's Suspended Weighing Machines; Dudgeon's Tube Expanders; Gresham's Injectors; Farron's High Pressure Taps; Farron's Pressure Diminishing Valves; Webb's Water Gauges for Steam Boilers; the "Oxygen" Furnace Bar for economizing fuel; Smyth's Self-acting Motor for driving Sewing and other Machines; Haines's Lead-encased Block-tin Piping; The "Vaughan" Self-acting Water Ejectors; Bessemer Emery Wheels; Hopkinson's Engine Indicators; Weston's Ratchet Braces; Harding's Engine Counters; Harding's Speedometers; Russell's Water Filters; Chandler's Compound-lever Ball Valves; Field's Disc-lip Valves; Whitley's Valve Lubricators; Ripley & Wormald's Tube Wrenches; Allen's Angular-cut Rasps; l'Extincteur; Gun-metal Fittings and Mountings for Locomotive, Marine, Stationary, and Portable Engines and Boilers; Wrought Iron, Brass, and Copper Tubes; Halkyn Mountain Hydraulic Lime, and Pwll Melyn Roman Cement; Lap-Welded Iron Boiler Tubes; Asbestos Steam Packing. (542)
(See Appendix.)

BESSEMER STEEL AND ORD-NANCE COMPANY (Limited), 17, *Gracechurch Street, London*.—Steel Rails, Tyres, Forgings, &c. (543)

FOX, WALKER & COMPANY, *Atlas Engine Works, Bristol*.—Locomotive Engine, specially designed for Narrow Gauge Railways, with Adams's radial axle boxes, and improved central couplings for sharp curves. (544)

DERING, GEORGE E., *Lockleys, Welwyn, Hertfordshire*.—Patent Spring Clip, Rail Joints. (545)

DE LORIERE & COMPANY, 1, *Victoria Street, London*.—Double-Purchase Crane, constructed on a new principle of prime motion. (546)

THOMSON & COMPANY, *Crown Iron Works, Glasgow*.—Buffers, Bearing Springs, and Draw Springs, with Machine for testing the same.

NORMAN, S. W., 116, *Westminster Bridge Road, London*.—Model of Tramway Car, a new method of shunting and of steering the carriage or engine over curves and angles. (547)

WELCH, A., 11, *Bank Buildings, Metropolitan Cattle Market, London*.—Railway Cattle Wagons fitted with appliances for stalling, feeding, and watering the animals (models). (548)

HUGHES, H., & COMPANY, *Falcon Works, Loughborough*.—Tank Locomotive Engine. (549)

HADFIELD, R., *Ecla Foundry, Attercliffe, Sheffield*.—Double disc Railway Wheel, in which the Tyre is welded to the centre. (791)

See Appendix.

DEWRANCE, J., & COMPANY, 176, *Great Dover Street, Southwark, London*.—Steam, Hydraulic, and Vacuum Gauges; Autographic Pressure Recorders; Injectors; Engine Counters, Salinometers, Engine Thermometers, Sand Pumps, Contracting Pump Bucket, Water Meters, Steam and Water Fittings; Babbitt's and Dewrance's Anti-Friction White Metals for lining bearings; Steam Launch Engines and Boilers. (550)

PETERS, THOMAS, & SONS, 53, *Park Street, and Upper George Street, Grosvenor Square, London*.—Five Carriages—Calèche, or Park Barouche, on eight springs; Coupé d'Orsay, on eight springs; Coupé, or Brougham, on elliptical springs; Mail Coach, with hand brake, luncheon box, and wine cisterns; Mail Char-à-Bancs, with hand brake. (551)

WINDOVER, C. S., 32 and 33, *Long Acre, London*.—Parisian Phaeton with

removeable seats and head, lunch basket, &c.; Denmark Phaeton with moveable hind seat. (552)

SHANKS, F. & R., 70 and 71, *Great Queen Street, London*.—Four-horse Drag, to lock shorter than usual; Small Sociable Landau, and Driving Phaeton with patent head. (553)

MORGAN & COMPANY, 128 and 129, *Long Acre, London*.—Carriages; Landaus, with Patent Apparatus to enable a lady to open or close the head instantly. (554)

EVANS, JAMES, 46, *Seel Street, Liverpool*.—Improved Hansom Cab. (555)

DENNIS, W. & Co., 19, *Holborn, London*.—Steam Sentinel for the prevention of Boiler Explosions. (618)

MOY & SHILL, 1, *Clifford's Inn, London*.—Aërial Machine—Working Model, exhibiting method of navigating the air by mechanical aëroplanes, without the aid of gas. The Model is driven by a pair of "Patent Non-radiating" Steam Engines of 2-horse power, but weighing only 24 lb. (556)

THORN, C., *St. Giles's Gate, Norwich*.—Norfolk Shooting and Baggage Cart, and "Lorne Car," with patent adjusting shafts, &c. (557)

MULLINER, H., *Leamington Spa, Warwickshire*.—Park Phaeton, Sporting Dog Cart Phaeton, and light Dog Cart. (558)

HOLLAND, E., & COMPANY, *Onslow House, Fulham Road, London*.—Trucks, Trolleys, &c. (560)

HUTTON, JOHN, & SONS, *Summer Hill, Dublin*.—Irish Car. (615)

ROBERTS, JOHN, & SONS, *West of England Carriage Works, Bridgewater*.—Whitechapel Dog Cart. (562)

CROWN IRONWORKS, *Glasgow*.—Ironwork. (563)

CLARKE, EDWARD, *Patent Crank Works, Lincoln*.—Crank for Thrashing Engines and Machines; Pumps, Locomotives and Marine Engines; Ship's Winches, Pumps, Looms, &c., bent out of round bars of iron by hydraulic machinery. (376)

BLEZARD, JAMES, & SONS, *Padiham, Lancashire*.—Temples used on

Looms for Weaving Cotton, Woollen, Linen, and Silk Goods. School Desk, compound fastening. (616)

SIEBE & GORMAN, 5, *Denmark Street, Soho, London*.—Ice-making Machine. (681)

GROUP XIIIa.

Agricultural Machinery.

BOBY, R., *St. Andrew's Works, Bury-St.-Edmund's*.—Barley Hummeller, Corn Screens, Corn-dressing Machines, Haymaking Machines, Hand Seed Drills, Malt Screens, Cask Bushes. (566)

ROBEY & COMPANY (LIMITED), *Perseverance Iron Works, Lincoln*.—Portable, Vertical, and Horizontal Engines; Thrashing Machines, with iron frames; Straw Elevators (Harvest Stackers); Corn Grinding Mills; Wood Sawing Machinery; Maize Sheller. (567)
(See Appendix.)

CLAYTON & SHUTTLEWORTH, *Stamp End Works, Lincoln; and at Vienna, Pesth, Prague, and Lemberg*.—Portable Thrashing Machines; Elevators for Straw, Hay, and Sheaf Corn; and other Agricultural Machinery. (568)

AVELING & PORTER, 71, *Canon Street, London, and Rochester, Kent*.—Agricultural Road Locomotive Engine with cylinder surrounded by steam and compensating gear for turning sharp corners, &c. suited for hauling heavy loads or driving fixed machinery; two waggons for use with the locomotive. (484)

HOWARD, J. & F., *Bedford*.—Steam Cultivating Apparatus, with Steam Plough, &c., complete; Ploughs, various; Grass, Seed, and Drag Harrows; Hay-making Machines; Horse Rake; Mowing and Reaping Machines. (442)

SMYTH, J., & SONS, *Peasenhall, Suffolk*.—Corn, Beet and Manure Drills; Broadcast Corn and Seed Sowing Machines; Manure Distributors. (570)

FOWLER, J., & COMPANY, 71, *Cornhill, London*.—Steam Ploughing Apparatus complete, and Steam Traction Engines; Clip-drums, &c. (571)

TURNER, E. R. & F., *St. Peter's Ironworks, Ipswich*.—Steam Engines, fixed and portable; Thrashing and Dressing Machine; Corn Grinding, Crushing and Kibbling Mills; Oil Cake Breakers; Maize Shellers, and Kibblers. (572)

HOUGHTON, W., & COMPANY, *Victoria Mills, Great Grimsby*.—Aspirator, Separator, Smutter, combined, for cleaning grain, two sizes. (573)

BAKER, J., *Falcon Works, Wisbeach*.—Corn Dressing and Screening Machines, made by Special Steam Machinery, and suitable for all Countries. (574)

MARSHALL, SONS, & COMPANY (LIMITED), *Gainsborough, Lincolnshire*.—Steam Engines, portable and fixed; Thrashing Machines, Corn Mills, Circular Saw Bench, and Sack-lifting Barrow. (575)

NICHOLSON, W. N., & SON, *Trent Ironworks, Newark*.—Portable Steam Engine, 8-horse power; Vertical Combined Engines and Boilers of 1 to 4-horse power; Haymaking Machines, Self-acting and other Horse-Rakes, Turnip and Root Cutters, Chaff Cutters, Oilcake Breaking Machine, and Winnowing Machine. (577)

FOLLOWS & BATE, *Dutton Street Works, Manchester*.—Lawn Mowing Machines, for hand and horse power, Chaff Cutter, Corn Grinding Mills, Meat Choppers and Mincers, Knife Cleaners. (578)

RUSTON, PROCTOR & COMPANY, *Sheaf Iron Works, Lincoln*.—Portable, Fixed, and Vertical Steam Engines, with patented improvements; Thrashing Machines, Patent Adjustable Corn Screens, Corn Grinding Machines, Maize Shellers; Wood Sawing Machinery, &c. (579)
(See Appendix.)

RANSOMES, SIMS & HEAD, *Orwell Works, Ipswich*.—Portable Steam Engines for economising Fuel, for Burning Wood and Lignite, and for Straw alone; Steam Thrashing Machines for finishing the Corn for market, for export, also for hot countries, with apparatus for chopping and bruising the straw for fodder; Horse Rakes, and Haymakers; Double and Single Horse and Bullock Ploughs, especially adapted for the large corn districts of the east. (580)

COLEMAN & MORTON, *London Road Ironworks, Chelmsford, Essex*.—Cultivators for light, mixed, and heavy soils; Corn Screen for separating grain; Potato Digging Machine, Manure and Water Carts, Oil Cake Breakers, Hay Elevator, &c. (581)

HUNT & TAWELL, *Atlas Works, Earls Colne, Essex*.—Clover Seed Drawer;

Chaff Bruising Mills; Cutters; Root Gardner Turnip Cutters; Horse Gears; Pulpers; and combined Oat and Bean Mill. (582)

LEWIS & COMPANY, *Salopian Ironworks, Shrewsbury*.—Mowing and Reaping Machines, Chaff Cutters, Ploughs, Oil Cake Breaker, Root Pulpers, Turnip Cutters and Slicers. (583)

SAMUELSON & COMPANY, *Britannia Works, Banbury*.—Self-Raking Reaping Machines, and Grass Mowing Machines. (584)

BAMLETT, A. C., *Thirsk, Yorkshire*.—Reaping Machine; Self-Raking Combined Mowing and Reaping Machine; Manual Delivery Reaper. (585)

BARNARD, BISHOP, & BARNARDS, *Norfolk Iron Works, Norwich*.—Patent Lawn Mowers; Garden Seats and Chairs; Ornamental Wrought Iron Gates. (295)

HORNSBY, R. & SONS, *Spittlegate Iron Works, Grantham*.—Patent Portable Steam Engines; Thrashing, Shaking and Finishing, Dressing Machines; Reaping and Mowing Machines; Corn and Seed Drills and Manure Distributors; Ploughs; Washing, Wringing, Mangling Machines, &c. (587)

(See Appendix.)

WILLIAMS & COMPANY (LIMITED), 33, *King William Street, City, London*.—Lawn Mowers called "Archimedean," adapted for long and wet as well as short and dry grass, for Hand and Pony use. (588)

WEETMAN, JOHN, *Vulcan Iron Works, Ipswich*.—Portable Vertical Steam Engine; Thrashing Machine; Horse Rake, with corn and seed distributor, harrow, and weed extirpator; Cultivator, &c. (589)

COULTAS, J., *Spittlegate, Grantham*.—Beetroot Drop Drill, with Artificial Manure Apparatus; Wright's Patent Potato Planter; Royal Corn and Seed Drill; Corn Broadcast Sowing Machine. (590)

PENNEY & COMPANY (LIMITED), *Lincoln*.—Patent Adjustable Rotary Corn-Screens; Seed-dressing Machine; Canadian Cast Steel Forks; Hoes, and Rakes. (591)

WOODS, COCKSEGE & WARNER, *Suffolk Ironworks, Stowmarket*.—Crushing and Grinding Mills for grain, linseed, &c., for steam power, price 17*l.* 17*s.* 0*d.* Ditto ditto, for horse or two-man power, 12*l.* Ditto ditto, for one man, 8*l.* 8*s.* 0*d.* Linseed and Malt Mill, price 6*l.* 6*s.* 0*d.* "Universal" Mill, worked by a big boy, 6*l.* 6*s.* 0*d.* Portable Combined Steam Engines and Boiler, 90*l.* Corn Mill, with French burr, 23*l.* 10*s.* 0*d.* Oilcake Breakers, 3*l.* 10*s.* 0*d.* and 7*l.* Horse Gear, 14*l.* 14*s.* 0*d.* Root Pulpers, 3*l.* 12*s.* 6*d.* to 5*l.* Thrashing Machine, for horse-power, 36*l.* (592)

CLARKE & DUNHAM, 48, *Mark Lane, London*.—Grain-Cleaning Machines—Smut Machine, Separator, Sorter, Wirework; Millstone, Millstone Balance, Steel Smelt Wire, and Mill Bills; Needle Lubricators. (593)

GARRETT, R., & SONS, *Leiston Works, Suffolk*.—Portable Steam Engines and Thrashing Machinery; Corn-drills, Horse-hoes, Manure Distributors. (594)

RICHMOND & CHANDLER, *Salford, Manchester*.—Chaff-cutting Machines, Crushing Mills, and Horse Gear. (595)

WALLIS & STEVENS, *Basingstoke*.—Portable Steam Engine, 8 horse power, with Patent Feed Water Heater, price 255*l.*; Portable Steam Thrashing and Finishing Machine, price 145*l.*; Horse-power Thrashing Machine, 73*l.* 10*s.*; Model of Patent Folding Elevator (596).

CORCORAN, BRYAN, WITT & COMPANY, 28, *Market Buildings, Mark Lane, London*.—Corn Grinding Mill, with French Burr Stones, Smutting Machine and Corn Screen, and Wheat Separator; Wirework for Malt Kiln Floors, containing 6,912 meshes to the square foot; Steel and Iron Round and Square Bar Smut Wire, woven of any size, width, and number of holes; Chron-

drometer, with English, Austrian, or other scale, for ascertaining the Weight of Corn per bushel, &c.; Perforated Plates for Smut Machines; Cement for Malting Floors, Concrete, &c.; Silk used for Dressing Flour; Wirework for Paper Making, Sieves, and other uses; Rice Shelling, Cleaning, and Polishing Stones; Mill Implements and Tools; Pulley Blocks, Hoists, Leather Felting, Grindstones, Haircloth, &c.; Hand Drill and Seed Sower; Wire of all kinds. (597)

WILLSHER & COMPANY, *Brain tree, and 40, Gracechurch Street, London*.—Steam Engine; 8-horse power Expansion Portable Engine, with Enlarged Firebox; 8-horse power Portable Combined Thrashing and Corn Dressing Machine, to prepare corn for market. (599)

EDWARDS, G. B., *High House, Bredfield, Woodbridge*.—Drills for dropping beetroot seed in tufts or bunches; Drills for dry manure. (600)

CLARK BROTHERS & ODLING, *Kirke White Street, Nottingham*.—Beaters for Thrashing Machines; Malleable Iron Castings. (601)

LEWIN, S., *Poole, Dorsetshire*.—Steam Engines, portable, fixed, and marine; Thrashing Machines and Elevators; Waggon Loader, Ploughs, and Circular Saw Bench; Portable Engine, 4-horse power, similar to the above-mentioned, with Thrashing Machine suitable for such engine; Strong and Simple Chaff Cutter. (602)

BARFORD & PERKINS, *Queen Street Iron Works, Peterborough*.—Corn Grinding Mills, Oil Cake Mills, Rollers; Steam Cooking Apparatus; Models of Road-roller, Steam Plough, and Campain's Anchor for Steam Cultivation. (603)

FOSTER, W., & COMPANY, *Wellington Foundry, Lincoln*.—Eight horse Portable Steam Engine; Portable Thrashing Machine. (604)

REID, B., & COMPANY, *Bon Accord Works, Aberdeen*.—11-row Patent "Disc" Corn and Seed Drill; 10-feet

Patent "Disc" Broadcast Sower, with Axle for transport; Winnower and Corn-dressing Machine; Patent 3-row Combined Beetroot and Manure Drill; Beetroot Raiser; Model of Wire Suspension Bridge, and Straining Pillar for Wire Fences; Models. (605)

PICKERING, JONATHAN, *Stockton-on-Tees*.—Patent Pulley Blocks and Sack Hoists. (606)

MILBURN, WILLIAM, 7, *Todd Street, Corporation Street, Manchester*.—Lawn Mowing, Rolling, and Collecting Machines. (607)

READING IRON WORKS, (LIMITED), *Reading, Berkshire*.—Steam Engines from 2 to 25-horse power, High Pressure and Condensing. (447)

DAVEY, PAXMAN & COMPANY, *Standard Ironworks, Colchester*.—Patent Vertical Engine, known as the "Davey-Paxman" Engine, with Boiler, Baffle Plate to regulate draught, and Water Tank Heater; Patent Steam Corn Dryer. (Boiler lent to Royal Commissioners for use.) (608)

PAGE, E., & COMPANY, *Victoria Iron Works, Bedford*.—Ploughs, Harrows, Horse Rakes, Root Pulpers, Oat and Maize Mills, Oil Cake Mill, &c.; Brick and Pipe-making Machines; Peat-Pressing Machines. (609)

MURRAY, G. W., *Banff, Scotland*.—Thrashing Machines for horse and hand-

power; Endless Chain Pump for lifting thick and other liquids; Double-furrow Plough, and combined Plough and Subsoiler, on antifriction wheels; Fencing Wire Straining Brackets for wood and iron posts. (610)

(See Appendix.)

NALDER & NALDER (LIMITED), *Challow Ironworks, Wantage, Berkshire*.—Combined Steam-power Thrashing and Dressing Machine for preparing grain for market. (611)

BURGESS & KEY, *Holborn Valley Viaduct, London*.—Reaping Machine for two horses, invented by Mr. C. McCormick of the United States of America, and made by exhibitors, delivers the corn, when cut in sheafs, clear of horses' feet; these machines are also adapted for light horses or bullocks. (612)

BAKER, T., *Whitewall Iron Works, Compton, Berks*.—Double Blast Corn Dressing and Winnowing Machine, with six Wire Sieves to suit different descriptions of Corn. (613)

BRIGHAM & COMPANY, *Tweed Implement Works, Berwick-on-Tweed*.—Mowing Machine, the "Star," 17l. 10s.; Reaping Machines; Self-acting "Improved Excelsior," 34l. (237)

GROUP XIV.

Philosophical, Surgical Instruments.

MATHEMATICAL, ASTRONOMICAL, PHYSICAL, AND CHEMICAL INSTRUMENTS (Instruments for Measuring, Weighing, and Dividing, for Optical and Electric Telegraphy). SURGICAL INSTRUMENTS AND APPARATUS (Artificial Limbs, Teeth, &c.) HOROLOGICAL INSTRUMENTS, CLOCKS, WATCHES, AND THEIR PARTS (Chronoscopes, Chronographs, Electric Clocks). STATISTICS OF PRODUCTION.

COOKE, T., & SONS, *Buckingham Works, York*.—Portable Equatorial Telescopes on Tripod Stands. Theodolite and Engineers' Levels. Large Clock for use of Royal Commission. (621)

PILLISCHER, M., 88, *New Bond Street, London*.—Microscopes and their Appliances; Telescopes; Field and Opera Binocular Glasses; Meteorological Standard Instruments; Aneroid Barometers and Barometrographs; Mathematical, Philosophical, Electrical and Surveying Instruments; Magnetic Compasses; Scales and Rules; Spectacles and Eyeglasses. (622)

SIEMENS BROTHERS, 3, *Great George Street, Westminster*.—Telegraph Apparatus and Materials; Tubular Iron and Wooden Poles with Insulators; Voltmeter, with Pyrometer; Electrical Apparatus for deep sea measurements; Electrical Alarums; Lightning Discharger; Mine and Torpedo Exploding Apparatus; Electrical Batteries; Deep Sea Thermometers; Pneumatic Signal Apparatus; Submarine Cable Specimens; India-rubber and Gutta-percha in stages of manufacture, &c. (623)

DAVIS, JOSEPH, & COMPANY, 92, *Crompton Street, Newington Butts, London*.—Royal Polytechnic Barometers, incorporating Admiral Fitzroy's "Prize Medal Barometer," giving separate indications of approaching weather in summer and winter, and all uncertain changes; Aneroid Barometers; and other instruments. (626)

HOOPER'S TELEGRAPH WORKS, 31, *Lombard Street, London*. Works: *West Ham, Mitcham, Surrey, and Millwall Docks, London*.—Submarine Telegraph Cables, and Telegraph Materials and

Apparatus; India-rubber Core, for submarine and other lines. (627)

AHRENS, BERNHARD, 24, *Ludgate Hill, London*.—Electro-magnetic Billiard Marker, Scorer, Indicator, and Detector. (628)

RABONE, J., & SON, *Whitmore Street, Hockley, Birmingham*.—Rules in Boxwood, Ivory, Brass, and Steel; Plumb and Spirit Levels; Measuring Tapes; Joiners' Squares, Bevels, Surveyors' Land Chains. (630)

(See Appendix.)

THE INDIA RUBBER, GUTTA PERCHA COMPANY, LIMITED, TELEGRAPH WORKS, *Silvertown, Essex*; and 100, *Cannon Street, London*.—India Rubber and Gutta Percha Manufactures; Submarine and Torpedo Telegraph Cable; Insulated Telegraph Wires. (775)

TELEGRAPH CONSTRUCTION AND MAINTENANCE COMPANY, LIMITED (per Baron Erlanger), *Rue Taibout, Paris*.—Telegraph Cables and Apparatus. (616)

ASH, C., & SONS, 7, 8, 9, *Broad Street, Golden Square, London*.—Mineral Teeth, Dental Instruments, Tools, and Appliances. (631)

REIN, C. F., & SON, 108, *Strand, London*.—Acoustic, Surgical and Veterinary Instruments; Respirators; Reservoir Enemas; Eye Fountains and Douches; Syphons and Breast Pumps; Bougies and Catheters; Thethoscopes; Medical Inhalers; Instruments for Deformities; Anatomical Belts, Stockings and Bandages; Trusses, Crutches,

Arm Slings, &c. Magneto-Electric Machines for nervous diseases. Elastic Appliances for surgical purposes. Speaking Tubes and Trumpets. (632)

REIN, MRS. C. F., 108, *Strand, London*.—Anatomical Belts, Artificial Breasts, Elastic Stockings for varicose veins, &c.; Trusses of all descriptions, Bandages, and other appliances for surgical purposes. (633)

GRAY, PHILIP, 7, *Cork Street, Burlington Gardens, London*.—Automatic Articulation applied to the construction of Artificial Limbs; Artificial Limbs suited to various amputations. (634)
(See Appendix.)

WARD, J., *Leicester Square, London*.—Invalid Chairs—locomotive, portable, recumbent, &c.; Children's Perambulators. (636)

PULVERMACHER, ISAAC L., 168, *Regent Street, London*.—Electric Galvano Bands, Chains, Volta-Electric Pocket Batteries; Faradaic Pocket Induction Apparatus. (637)
(See Appendix.)

GABRIEL, MESSRS., 72, *Ludgate Hill*; and 56, *Harley Street, Cavendish Square, London*.—Artificial Teeth and specimens of Mechanical Dentistry. (638)

OCLEE, F. H., 31, *New Bailey Street, Salford*.—Mechanical Self-acting Bust for showing Artificial Teeth, Specimens of Teeth, &c. (639.)
(See Appendix.)

SALT & SON, 21, *Bull Street, Birmingham*.—Trusses; Umbilical Belts for Rupture; Truss Pads made by machinery, without sewing. (640.)

KLAFTENBERGER, C. J., 157, *Regent Street, London*.—Marine and Pocket

Chronometers, Clocks, and Watches; Watches, for scientific and other purposes—Chronographs, Automaton Seconds, Minute Repeaters, Perpetual Calendar Watches, &c.; Watch Chains and Seals. (641.)

KULLBERG, V., 105, *Liverpool Road, London*.—Marine Chronometers with improved balances for extremes of temperature; Keyless Pocket Chronometers, and Lever Watches; Chronograph, Calendar Watch, &c. (643.)

WEICHERT, WILLIAM, 119, *Rothsay Terrace, Bute Docks, Cardiff, Wales*.—Marine Chronometers; Chronometer, Barometer and Thermometer combined; Keyless Pocket Chronometers, and Lever Watches. (644.)

FRENCH & COMPANY, 9, *Royal Exchange, London*.—Chronometers, Repeating and other Watches, in gold and silver cases. (645.)

GREENWOOD, J., & SONS, 6 and 7, *St. John's Square, Clerkenwell, London*.—Clock, going eight days, chiming quarters and music, in Louis XIV. marquetry case. Designed by Maréchal, manufactured by exhibitors. (647.)

GILLETT & BLAND, *Whitehouse Road, Croydon, Surrey*.—Turret and other Clocks; Model of Carillon Machine; Chronoscope; Fire Alarm; Astronomical Regulator with Gravity Escapement. (648.)

SIVEL & WALTER, 121, *Patrick Street, Cork*.—Marine Chronometer with improved auxiliary compensation balance wheel. (649.)

LOZADA, J. R., 105, *Regent Street, London*.—Marine Chronometers, Watches, and Clocks. (655.)

GROUP XV.

Musical Instruments.

MUSICAL INSTRUMENTS. PARTS OF THEM (Strings, Bows, Moulding Boards, Membranes, Keys, Pipes, &c.) SOUND CARRYING APPARATUS (Speaking Pipes, Signal Whistles, &c.) BELLS, CHIME OF BELLS. STATISTICS OF PRODUCTION.
(*Vide* Additional Exhibition, No. 3.)

ATKINS, CHARLES, & COMPANY, 1, *Water Lane, Great Tower Street, London*.—Metal Head Side Drums. (650)

IVORY, H. A., & COMPANY, *Wood Green, Tottenham, London*.—Pianofortes. (651)

KIRKMAN, J., & SON, 3, *Soho*

Square, London.—Pianofortes of various descriptions. (652)

BLEWS, WILLIAM, & SONS, *New Bartholomew Street, Birmingham*.—Peal of eight Church Bells arranged for ringing on the English system, weight 55 cwt. Set of Hand Bells for time ringing. (802)

GROUP XVI.

The Art of War.

ORGANIZATION AND RECRUITING OF ARMIES. EQUIPMENT OF TROOPS, ACCOUTREMENTS, AND ARMOUR. ARTILLERY. MILITARY ENGINEERING. SANITARY CONTRIVANCES. MILITARY EDUCATION; TRAINING, AND INSTRUCTION. CARTOGRAPHY AND HISTORIOGRAPHY.

WAR OFFICE, *London*.—Ambulance and similar material, arranged by Captain Burgess, of the Society for the Relief of the Sick and Wounded. (656)

ELEY BROTHERS, 254, *Gray's Inn Road, London*.—Cartridge Cases for pin-fire and central-fire sporting guns, for military and sporting rifles, and for revolving pistols; Percussion Caps; Gun Waddings of thick felt; Wire Shot Cartridges for game at long distances, for muzzle and breech-loaders. (657)

GREGORY, SAMUEL, *Newport Road, Lincoln*.—"Canteen" Cooking Apparatus. (658)

HENRY, ALEXANDER, 12, *South Saint Andrew Street, Edinburgh*.—"Henry's" Self-cocking Military Rifle, with barrel as adopted by Her Britannic Majesty's Government; the same with side lock. (313)

HENRY RIFLED BARREL COMPANY, *Blenheim Works, Eagle Wharf Road, London*.—Steel Barrels for Small Arms and

for the Gatling Gun, rifled on the "Henry System," adopted by the British War Department for the Martini-Henry Rifle and the Gatling Gun, shown in various stages of manufacture. (660)

SOPER, W., 23, *Friars Street, Reading*.—Breech-loading Rifles, which have been loaded and fired sixty times in one minute. (661)

WEBLEY, P., & SON, 82, 83, and 84, *Weaman Street, Birmingham, and St. James's, London*.—Breech-loading Guns, Rifles, and Revolvers, on various systems and of different qualities. (662)

LEVESON, MAJOR, 22, *King Street, Covent Garden, London*.—Military Tents, Appliances, and Equipments; Sanitary Contrivances. (663)

EDGINGTON, JOHN, & COMPANY, 48, *Long Lane, West Smithfield, London*.—Military Hospital Marquee, 40 ft. by 20 ft.; Military Camp Tent, for three men, called the "Old Shekarry Campaigning Tent;" Lawn Tent, on the umbrella principle, called Ritchie's Patent Tent. (233)

GARDNER, JOHN, & SONS, 453 and 454, *West Strand, Charing Cross, London*.—Lamps and Cocking Utensils for Military Service (shown in Major Leveson's Tent). (654)

MURCOTT, THEOPHILUS, 68, *Hyamarket, London*.—Military Arms, &c. (678)

FAGG BROTHERS, 29, *Haymarket, London*.—Boots, Patent, for Cavalry, with spurs, chairs, and straps; Hunting, Riding, Shooting, and Dress Boots. (679)

LEWIS, GEORGE EDWARD, 32 and 33, *Lower Loveday Street, Birmingham*.—Snider Breechloader, with bolt action, for military purposes; Improved Chassepot Rifle for metallic cartridges, W. Scott's patent; Cross-bolt Military Rifle, new system—W. Scott, patentee. (664)

VAVASSEUR, J., & COMPANY, *London Ordnance Works, Bear Lane, Southwark, London*.—Cannon, built-up, cast steel breech and muzzle-loading; Iron Gun Carriages for Naval and Field Service; Projectiles for Breech and Muzzle-Loading Guns; M'Evoy's Torpedoes, Electric Fuzes and Apparatus; Jointers for Electric Cables. (665)

ARMSTRONG, SIR W. G., & COMPANY, *Elswick Works, Newcastle-on-Tyne*.—Breech-loading Rifled Guns, with Carriages, &c.; Muzzle-loading ditto; Gatling Guns with ten Barrels; Sixty-four Pounder Palliser Converted Rifled Gun on Carriage; Breech and Muzzle-loading Rifled Guns on Garrison Carriages; Parts of Guns in various stages of manufacture; Series of Electrical Torpedoes, with connections complete; Model of H.M. Gunboat "Staunch;" Model of the Moncrieff Gun-carriage for 9-inch Gun; Model of 35-ton Muzzle-loading Rifled Gun; Fuzes, Bursting, &c., for Rifled Guns; Corrugated Zinc Powder Cases for 9 and 10-inch Cartridges. (561)

MAYO, C., M.D., *Member of the Royal College of Physicians, London*.—Sling Apparatus, in form of a cart, for transporting severely wounded men; intended chiefly for use between field hospitals and railways, and to reduce the number of men and amount of materiel required for field-hospital service. (666)

GROUP XVII.

The Navy.

MATERIALS FOR NAVAL ARCHITECTURE. MODELS AND DRAWINGS OF BOATS AND SHIPS FOR INLAND LAKE AND RIVER NAVIGATION; SEA-GOING SHIPS, COASTING VESSELS, MERCHANT SHIPS, AND SHIPS OF WAR, STORES AND FITTINGS FOR EQUIPMENT, OUTFIT, AND ARMAMENT OF SHIPS. TOOLS AND APPARATUS USED IN SHIPBUILDING. LAND AND WATERWORKS FOR NAVIGATION (Models and Drawings of Docks, Harbours, Sluices, Floating Docks, Floating Batteries, and Coast Defences). CLOTHING, OUTFIT, AND ACCOMMODATIONS FOR CREWS. HYDROGRAPHY, CHARTS, METEOROLOGICAL INSTRUMENTS; EDUCATION OF SEAMEN AND OFFICERS.

DENNY, W., & BROTHERS, *Dumbarton*.—Sectional Model of Spanish Royal Mail Steam Ship "A. Lopez." (670)

MARTIN, CLAUDE, 9, *Great Winchester Street, London*.—Model of Stern of Ironclad Vessel, with Patent Self-canting Anchor and Zig-zag Link Chain Cable. (671)

SMITH, WASTENEYS, 22, *Grey Street, Newcastle-on-Tyne*.—Anchors, called Patent "Stockless;" Model of Ship's Bows fitted with the same, and with Patent Gear. (672)

WILSON, J. H. & COMPANY, *Cornhill, Liverpool*.—Steam Winch and Hoist. (673)

LAIRD, BROTHERS, *Birkenhead Ironworks, Birkenhead*.—Ship Models.—H. Britannic M. S. "Wyvern," Steam Ram, with tripod masts; "Heiligerle," Turret Monitor, and "Der Heir," Steam Ram, for coast defence of Royal Dutch Navy. "Bahia," Turret Monitor of the Brazilian Navy. Royal Mail Steamship "Britannia," of 3,700 tons and 650 horse-power. Royal Mail Steamship "Santa Cruz," of 2,250 tons and 400 horse-power. "Cranborne," of the Indus Steam Flotilla. River Steamer of 100 tons, built of Steel, drawing only two feet of water. Steam Launch for carrying Troops and one Gun. "Lancashire Witch," Schooner

Yacht, with Auxiliary Engines. "More Vane," Screw Pleasure Launch. (674)

KYNASTON, MRS. C. M., *The Close, Lichfield*.—Boat Lowering Apparatus. (675)

PALMER'S SHIP BUILDING AND IRON COMPANY, *Jarrow-on-the-Tyne*.—Models of Ships; Screw Steamer "Jumna," built for the British Government; Screw Steamer "Montana," built for Messrs. Green and Co., Liverpool; Screw Steamer "Brindisi;" Two Half Models. (676)

REED, E. J., C.B., *Earle's Shipbuilding Company, Hull*.—Model of a Broad-side Ironclad Ship, "König Wilhelm." (238)

LUMLEY, HENRY, (CHEVALIER) Associate of the Institute of Naval Architects, 20, *Bury Street, St. James's*, and 31, *St. James's Street, Piccadilly, London*.—Model of Lumley Rudder for River Steamboats, or Canal Navigation, on Exhibitor's Second System. (679)

WALKER FORGED SCREW & BOLT COMPANY, *Low Walker, near Newcastle-on-Tyne*.—Patent Forged Screws; Railway Chairs and Tramway Fastenings. (677)

GROUP XVIII.

Civil Engineering, Public Works, and Architecture.

BUILDING MATERIALS; PROCESSES AND APPARATUS FOR QUARRYING, BRICKMAKING; IRON GIRDER WORK; PREPARATION AND PRESERVATION OF WOOD; ARTIFICIAL STONE, TERRA-COTTA WORK, &c.; MATERIALS AND APPLIANCES FOR FOUNDATIONS (Pile-drivers, Screw-piles, Cofferdams, Caissons, Pneumatic and Diving Apparatus). CONTRIVANCES AND TOOLS FOR EARTH-WORKS (Excavators, Dredging Machines, Apparatus for Raising, Carrying, and Transporting Earth and Materials). MATERIALS AND APPARATUS USED FOR ROADS AND RAILWAYS (Road Rollers; Railway Superstructure, Switches, Crossings, Turn-tables, Traversing-tables, Inclined Planes, Lifts; Pneumatic and other Modes of Propelling; Water Stations and their Apparatus, Railway Station Buildings of all kinds, and Systems of Railway Signals). HYDRAULIC ENGINEERING WORKS, EXCLUDING SEA WORKS (River Works, Canal Works, Dikes, Locks, Dams, &c.) MODELS AND PLANS OF VIADUCTS, BRIDGES, AND AQUEDUCTS, &c. PLANS, MODELS, AND DRAWINGS OF PUBLIC BUILDINGS, DWELLING-HOUSES, BARRACKS, PENITENTIARIES, PRISONS, AND HOSPITALS, SCHOOLS AND THEATRES, LABOURER'S COTTAGES; APPARATUS FOR LIFTING AND MOVING HEAVY WEIGHTS IN BUILDINGS, AS LIFTS, &c.; PLANS AND MODELS OF CHEAP DWELLING-HOUSES; TOOLS AND IMPLEMENTS OF ARTISAN BUILDERS. APPARATUS AND INVENTIONS FOR HEALTH, COMFORT, AND CONVENIENCE IN BUILDINGS (for Lighting, Water Supply, Drainage, Waterclosets, Lightning Conductors, &c.) AGRICULTURAL ENGINEERING; PLANS FOR CULTURE, FENCING, DRAINING; FARM BUILDINGS; BUILDINGS FOR CATTLE BREEDING; STORES, STABLES, MANURE TANKS, &c. INDUSTRIAL BUILDINGS; SPINNING MILLS, WEAVING MILLS, GRINDING MILLS; DISTILLERIES, BREWERIES, SUGAR MANUFACTORIES; WAREHOUSES, SAW-MILLS, AND DOCKS, &c.

BICKFORD, SMITH & COMPANY, *Tuckingmill, Cornwall*.—Patent Safety Fuses for blasting in mines, quarries, &c. (680)

SIEBE & GORMAN, 5, *Denmark Street, Soho, London*.—Diving Apparatus, from which two Divers may work at different depths from the same Air-Pump. Used by the English Admiralty. (681)

HEINKE & DAVIS, 2, *Brabant Court, Philpot Lane, London*.—Improved Diving Apparatus complete; Electric Lamp for sub-marine uses. (682)

AVELING & PORTER, *Rochester, and 72, Cannon Street, London*.—Steam Road Roller. (484)

SAXBY & FARMER, *Canterbury Road, Kilburn, London*.—Railway Junction Model; Interlocking Railway Points and Signals; Facing Points and Switches; Level Crossing Gates; and other railway security apparatus. (683)

BAINES, WILLIAM, *Railway Plant Works, Birmingham*.—Model of Railway

Locking Switches and Signal Apparatus. (700)

BLAKEBOROUGH, JOSEPH, *Brighouse, Yorkshire*.—Waterworks Appliances, Hydrants, Fire-extinguishing Apparatus, Gun Metal Steam Fittings, Cocks, Gauges, Valves, Steam-whistles, &c. (684)

REDMAN, JOHN B., F.R.G.S., Member of the Institution of Civil Engineers, 25, *Great George Street, Westminster*.—Model of Royal Terrace Pier, at Milton-on-Thames, erected by means of Cast-iron Cylinders, 1843-5—the pioneer of this class of marine construction; principal dimensions in feet—length 250, breadth 30; the cast-iron girders are 50 and 51 ft. long, and 3 ft. deep, and weigh 8 tons; cylinder foundation piers 6 ft. in diameter; their average depth below low water mark at Spring tide, 12 ft., rise of tide 20 ft.; height of structure from base of foundations to vane, 80 ft.; the cylinder foundations are all carried through the alluvial sands and gravels down to the solid chalk; the cylinders are filled solidly with brickwork and concrete in cement, the base stones being held down by central wrought iron through bolts. Drawings of Cylinders

applied to a Bridge Pier, and to a Fort on the Goodwin Sands. (685)

TWYMAN, AARON, C. E., 25, *Walbrook, London*.—Plans, Elevations, and Sections of a Dwelling House designed for climates similar to that of Great Britain. (686)

IMPROVED INDUSTRIAL DWELLINGS COMPANY (LIMITED), 34, *Finsbury Circus, London*.—Models, Photographs, and Plans of Improved Dwellings for the Working Classes. (687)

JONES, OWEN, 9, *Argyll Place, London*.—Designs for Wall Decorations, Furniture, Carpets, Paper Hangings, Silk Hangings, and Playing Card Backs. (688).

TALL & COMPANY (LIMITED), 8, *Lawson Street, Great Dover Street, London*.—Concrete Dwelling House. (689)

MOSELEY, ANDREW, F.I.B.A., 6, *Trinity Place, Charing Cross, London*, and FULHAM, D.S., *Associate King's College, London*.—Model of Barrack to house 1,000 men, with drawings of the several floors; an elevation and section to the scale of 10 feet to the inch; detail drawings of parts to a larger scale. (690)

SOCIETY FOR IMPROVING THE CONDITION OF THE LABOURING CLASSES (C. PAYNE, Secretary).—21, *Exeter Hall, Strand, London*.—Drawings of Model Lodging Houses and Renovated Houses for Working People; Plans for Cottages for Agricultural Labourers. (691)

DOULTON, H., & COMPANY, 28, *High Street, Lambeth, London*.—Stoneware, known as "Lambeth Pottery," for sani-

tary purposes; Drainpipes, Traps, Syphons, Sewage Pipes with sluice valves, Sinks, Closet Basins, Urinals, &c.; Terra-Cotta Flue Linings; Architectural and Horticultural Terra-Cotta damp-proof course Air Bricks; Toilet Articles in white ware, &c. (315)

SKELTON, T. A., 37, *Essex Street, London*.—Catoptric Lamp for Street Lighting. (693.)

JENNINGS, G., & COMPANY, *Lambeth, London*.—Sanitary Apparatus. (694.)

WRIGHT, SUTCLIFFE & SON, *Halifax, Yorkshire*.—Syphon Traps, to prevent the rising of noxious gases from sewers, without seam and with syphon cleansing plug, strengthening webs and funnel, cast in one piece for fixing in sink; Artesian Sink or Well Pump in cast lead. (695.)

BROWN, WESTHEAD, MOORE & COMPANY, *Cauldon Place, Hanley, Staffordshire*.—Sanitary Earthenware for domestic and other purposes, made under the sanction of the London Board of Health. (696.)

ZIMDARS, C. E., 28, *Red Lion Square, London*.—Patent Pneumatic Bell Apparatus, for houses, mines, ships, &c.; Dispatch Tube; Railway Carriage Signals; Alarums. (697.)

LAWRENCE, W., & COMPANY, 14, *St. Mary Axe, London*.—Water Boiling and Cooking Apparatus. (Lent to Her Majesty's Commissioners.) (515.)
(See Appendix.)

BUSBY, T., 10, *Baron Street, Pentonville, London*.—Bath Valves. (699.)

GROUP XXI.

National Domestic Industry.

POTTERY AND PORCELAIN. FABRICS, TAPESTRY, EMBROIDERY, LACE AND OTHER NEEDLEWORK.
METAL ARTICLES AND ORNAMENTS. CARVED WORK AND UTENSILS.

SILICATED CARBON FILTER COMPANY, *Church Road, Battersea, London.*
—Silicated Carbon Filters in Glass, Terra-Cotta, Marbled China, and Earthenware. (Shown in operation at Royal Commission Buildings in the Park). (708)

ROWE, MRS., E. R. 1, *Union Crescent, Margate.*—Needle Point Lace, Studies of Flowers. (709)

BURKE, J. HANWELL, 31, *Wellington*

Quay, Dublin.—Cardboard Mounts for Photographs, Gold Frames, &c. (710)

KENT, GEORGE, 199 to 201, *High Holborn, London.*—Domestic Machines and Utensils, including Knife Cleaners, Ventilated Refrigerators, Freezers, Egg-beaters, Mixers, Churns, Potato Mashers, Miners, Clothes Wringers, Carpet Sweepers. (Part lent for the use of the Commissioners.) (711)

(See Appendix.)

GROUP XXII.

Exhibition showing the Organisation and Influence of Museums of Fine Art as applied to Industry.

THE VARIOUS METHODS AND MEANS BY WHICH THE DIFFERENT MODERN MUSEUMS (viz.: the South Kensington Museum in London and the similar Museums in Vienna, Berlin, Moscow, &c.) ENDEAVOUR TO CARRY OUT THE IMPROVEMENT OF THE GENERAL TASTE OF THE PEOPLE AND THE MANNER IN WHICH THEY PROMOTE THE ART INDUSTRY AND PUBLIC INSTRUCTION OF THEIR COUNTRIES.

SCIENCE AND ART DEPARTMENT OF THE COMMITTEE OF COUNCIL ON EDUCATION, *South Kensington Museum, London, S.W.* (713)

ELECTROTYPES.

- 1 SHIELD, copper silvered and oxydised and parcel-gilt, "The Outram Shield."—The original, of silver and steel damascened with gold, was presented to the late Sir James Outram, Bart., G.C.B., by friends in the Bombay Presidency. In the centre is a group of equestrian figures in high relief, representing the voluntary cession by Sir J. Outram to General Havelock of the troops destined to relieve Lucknow during the Indian mutiny, around this is a band damascened with gold containing medallion portraits in relief of distinguished Indian officers. A wider external band of groups of figures in low relief represents various events in Sir J. Outram's Indian career. The shield, which is now the property of Sir F. B. Outram, Bart., was manufactured by Messrs. Hunt and Roskell, from the designs of Mr. H. H. Armstead. *English.* 19th century. Diam. 3 feet 3 in. Messrs. Franchi and Son. Price, 55*l.*

- 2 TANKARD and COVER, fictile ivory mounted in metal.—The drum carved in high relief with a bacchanalian group; on the cover a group of a man subduing a centaur. *German (Augsburg)*. Late 17th century. The original, of carved ivory, mounted in silver, parcel-gilt, is in the South Kensington Museum, No. 4,529-'58, and is inscribed "Bernard Strauss Goldsmid fec." H. 19 in., W. 11½ in. by 7¾ in. Messrs. Franchi and Son. Price, fictile ivory with gilt or parcel-gilt mounts, 15*l*.
- 3 VIOLIN, carved with woodland scenes.—The original, in boxwood, belongs to the Earl of Warwick, by whom it has been lent to the South Kensington Museum. *English*. Date about 1330-40, with additions dated 1579. L. 2 ft., W. 7¾ in. Messrs. Franchi and Son. Price, copper bronzed, in imitation of wood, 75*l*.
- 4 SHIELD, with spiked centre, of repoussé or beaten work, with subjects from the life of Julius Cæsar, a legend in Latin elegiacs round the border. *Italian*. 16th century. The original, of iron, damascened with gold and silver is attributed to Benvenuto Cellini, and is in the Royal Armoury, Windsor Castle. Diam. 22 in. Messrs. Elkington and Co. Price, silvered or oxydised, 3*l*. 15*s*.
- 5 VASE and COVER.—Stags among foliage in low relief; on the cover a bird. The original, of silver beaten and chased, is the property of Lord Buckhurst, Knole Park. *Indian*. H. 14 in., diam. 9 in. Messrs. Franchi and Son. Price, silvered, 6*l*.
- 6 VASE and COVER.—Band of masks between fruit and foliage; gadroons at top and bottom; festoons hanging from the cover. The original, of silver beaten and chased, is the property of Lord Buckhurst, Knole Park. 17th century. H. 16 in., W. 10 in. Messrs. Franchi and Son. Price, silvered, 8*l*. 10*s*.
- 7 GOBLET.—The stem carved in high relief with masks, snails, lions, &c. *English*. Hall-mark, 1567. The original, of agate, mounted in silver gilt, is in the South Kensington Museum, No. 38—'67. H. 7½ in., diam. 3½ in. Messrs. Franchi and Son. Price, gilt, 20*l*.
- 8 PAX.—Of architectural design; in the centre is a group in full relief of the Virgin giving the chasuble to St. Ildefonso. *Spanish (Salamanca?)*. About 1540-50. The original, of silver gilt, is in the South Kensington Museum, No. 314-'64. H. 10½ in., W. 5½ in. Messrs. Franchi and Son. Price, gilt, 25*l*.

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- 9 PAINTING.—On porcelain; two of three rectangular pieces. Copy of "May Day, in the Olden Time," painted by H. S. Marks in 1868. Executed by Miss E. Cambridge, Student of the Porcelain Class, South Kensington. *English*. 1870.

DESIGNS FOR FANS.

- 10 Water colour on silk, grasses, bluebells, and butterflies; sent to competition for fan designs, by Louisa Colfax. Modern *English*.
- 11 Water colour on silk, wreath of convolvulus and blackberries; prize object in competition for fan designs, by Fanny M. Minns. Modern *English*.
- 12 Water colour on silk, passion flowers; sent to competition for fan designs, by A. B. Purkiss. Modern *English*.

- 13 Water colour on paper, conventionalized flowers in purple border, heightened with gold; prize object sent to competition for fan designs, by Maria Truman. *Modern English.*
- 14 Water colour on vellum; mediæval figures representing the Senses: prize object in competition of fan designs, by Ellen Montalba, South Kensington School of Art. *English.* 1869.
- 15 Water colour on vellum; a river with sedgy banks and a kingfisher: prize object in competition of fan designs. By Mrs. A. A. Foster, Lincoln School of Art. *English.* 1870.
- 16 Water-colour on silk; flowers and butterflies on black ground: prize object in competition of fan designs. By Emily R. Stanton, Stroud School of Art. *English* 1870.

STUDENTS' WORKS, &c.

- 17 DRAWINGS AND PAINTINGS, by Students of Schools of Art of the United Kingdom. One descriptive label in frame. (62 frames.)
- 18 MODELS IN PLASTER, by Students of Schools of Art of the United Kingdom. (9 frames.)
- 19 SERIES OF DESIGNS FOR WALL PAPERS, by Students at South Kensington Schools of Art. Manufactured by Messrs. Corbière and Son. (6 frames.)
- 20 PIECE OF SILK, designed by F. A. Slocombe, Art Student, South Kensington. Manufactured by Messrs. Corbière and Son. (1 frame.)
- 21 PHOTOGRAPHS FROM TERRA COTTA PANELS for the Wedgwood Memorial Institute, Burslem. Executed in the Training and Normal School, South Kensington. (8 frames.)
- 22 CHROMO-LITHOGRAPHS of Objects in the South Kensington Museum. (12 frames.)
- 23 TILES (Twelve).—Enamelled Earthenware. Each containing a letter of the alphabet with accompanying figure, designed by the late Godfrey Sykes. *Modern English.* (4 frames.)
- 24 ROSETTE, and portion of border, of enamelled Terra Cotta ceiling, South Kensington Museum. Designed by J. Gamble.
- 25 PAINTING ON ENAMELLED IRON, of a letter of the alphabet. Designed by the late Godfrey Sykes.
- 26 PART OF A SERIES OF DECORATIVE DESIGNS. By E. J. Poynter, A.R.A. For the Grill room, South Kensington Museum. (16 frames.)
- 27 CAST OF PANEL, of North Gate, Sanchi Tope, Bhopal, India. Buddhist Art, 1st Century.

28 PHOTOGRAPH OF THE EASTERN GATEWAY, of the Sanchi Tope, Bhopal, India.

29 TWO FRAMES, from a series, illustrating economic entomology.

30 MEASURING MACHINE. Invented by Sir Joseph Whitworth, Bart. Capable of measuring the one-millionth part of an inch.

CLARKE, CASPAR, 16, *Earl's Court Gardens, South Kensington, London.*—Mosaic Picture from the Dome of the Chigi Chapel, Rome, in impressed and coloured paper, by a process indicated by General Scott, C.B. [Executed by the Exhibitor.] (714)

DIRECTORS OF CONVICT PRISONS.—Medallion, in Mosaic, of a Female Head. Executed by the Convicts at the Woking Female Prison. (715)

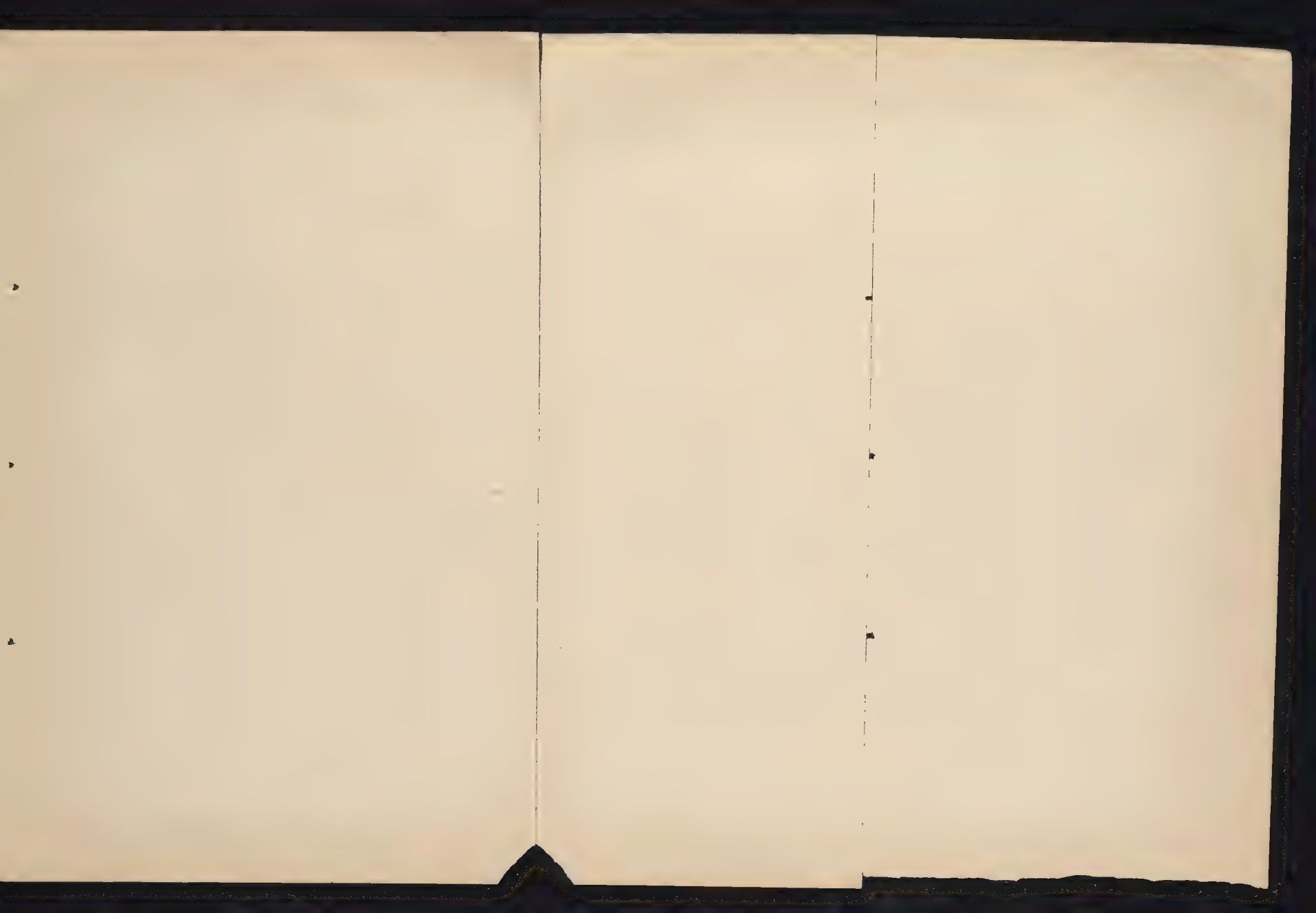
GROUP XXIII.

Art applied to Religion.

DECORATION OF CHURCHES (Wall Decoration, Stained Glass, Glass Painting, &c.) CHURCH FURNITURE (Altars, Organs, Pulpits, Pews, Shrines for enclosing Sacred Vessels, &c.) ORNAMENTS FOR ALTARS, PULPITS, CRUCIFIXES, CHALICES, LIBURiums, CANDLESTICKS, ALTAR HANGINGS AND CARPETS, PULPIT HANGINGS, &c. OBJECTS USED IN BAPTISM AND FUNERALS, &c.

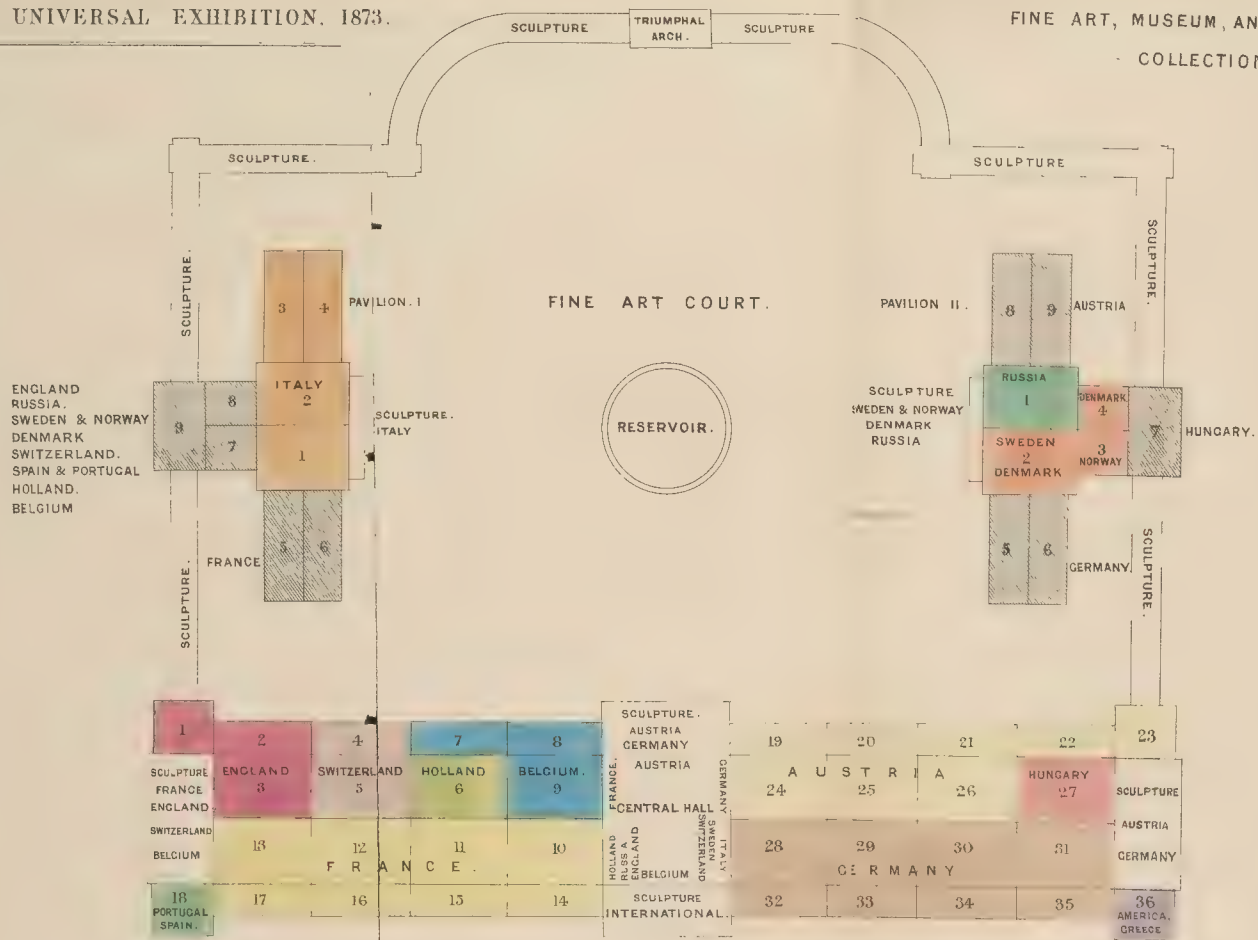
DE MORINI, CH., 87, *Newman Street, Oxford Street, London.*—Stained Glass Window for a Staircase, Watteau style. (718)

CONSTABLE, W. H., *Cambridge.*—Stained Glass Window, early English style; subject, "Christ healing all diseases." (719)



VIENNA UNIVERSAL EXHIBITION. 1873.

FINE ART, MUSEUM, AND AMATEUR
COLLECTIONS.



GROUP XXV.

Fine Arts of the Present Time, Works produced since the Second London Exhibition of 1862.

PAINTINGS: Including Miniatures and Enamels. SCULPTURE: Including Figures and Groups of small sizes; Engraving, Medals, &c. ARCHITECTURE: Including Models, Designs, Sketches, and Surveys of Architectural Works of the present time. GRAPHIC ARTS: Including Copper and Steel Engravings Etching, Woodcuts, &c.

FINE ARTS.

OIL COLOUR PAINTINGS.

*** The Initials which appear after the names of the Artists in the following pages must be read as follows:—P.R.A., President of the Royal Academy of England; R.A., Member, A.R.A., Associate, and A.E., Associate Engraver, of the same Academy; P.R.S.A., President of the Royal Scottish Academy; R.S.A., Member of the Royal Scottish Academy.*

When not otherwise stated the Artist is also the Contributor.

ANSDELL, R., R.A., Lytham House, St. Alban's Road, Kensington, London.

Elected Associate of the Royal Academy, London, 1861; elected full member, 1870.

1 GOING TO THE WINTERING—DRIVING SHEEP.

Lent by H. A. BRASSEY, ESQ., M.P.

ARCHER, J., R.S.A., 6, Bedford Place, Kensington, London.

2 PORTRAIT OF A LADY IN WHITE.

ARMITAGE, EDWARD, R.A., 3, Hall Road, St. John's Wood, London.

Elected Associate of the Royal Academy, London, 1867; elected full member, 1872.

3 DANIEL POINTING OUT TO KING CYRUS THE FOOTSTEPS OF THE PRIESTS IN THE TEMPLE OF BEL.—*Story of Bel and the Dragon.*

4 FRENCH PEASANT PLOUGHING UP A BATTLE-FIELD TWENTY YEARS AFTER THE WAR OF 1870.

"Scilicet et tempus veniet, cum finibus illis
Agricola, incurvo terram molitus aratro,
Exesa inveniet scabrâ rubigine pila:
Aut gravibus rastris galeas pulsabit inanes,
Grandiaque effossis mirabitur ossa sepulchris."

VIRGIL, Georgics, Lib. i., 493-7.

- BOXALL, SIR W., R.A.**, 14, Welbeck Street, London.
Elected Associate of the Royal Academy, London, 1851; elected full member, 1868.
- 5 PORTRAIT OF HON. MRS. RICHARD BOYLE. (*Hors concours.*)
Lent by the HON. and REV. R. C. BOYLE.
- 6 PORTRAIT OF THE LATE MRS. CARDWELL. (*Hors concours.*)
Lent by the RIGHT HON. E. CARDWELL, M.P.
- BRETT, JOHN**, 3, Mansfield Street, London.
- 7 SOUTH BISHOP ROCK—ANTICIPATIONS OF A WILD NIGHT.
- CALDERON, PHILIP H., R.A.**, 9, Marlborough Place, St. John's Wood, London.
Elected Associate of the Royal Academy, London, 1864; elected full member, 1867.
- 8 AFTER THE BATTLE *Lent by H. W. F. BOLCKOW, ESQ., M.P.*
- 9 "SIGHING HIS SOUL INTO HIS LADY'S FACE" .. *Lent by G. C. SCHWABE, ESQ.*
- COLE, VICAT, A.R.A.**, 8, Victoria Road, Kensington, London.
Elected Associate of the Royal Academy, London, 1870.
- 10 EVENING *Lent by H. A. BRASSEY, ESQ., M.P.*
"Now fades the glimmering landscape on the sight,
And all the air a solemn stillness holds."
- COOKE, E. W., R.A.**, Glen Andred, Groombridge, Tonbridge Wells.
Elected Associate of the Royal Academy, London, 1851; elected full member, 1863.
- 11 LIGHTSHIP ON THE GOODWINS DURING A GALE
Lent by THOMAS BRASSEY, ESQ., M.P.
- COOPER, T. S., R.A.**, 42, Chepstow Villas, Bayswater, London, and Vernon Holme, Harbledown, Canterbury.
Elected Associate of the Royal Academy, London, 1845; elected full member, 1867.
- 12 A BROOK IN THE MEADOWS *Lent by DAVID JARDINE, ESQ.*
- COPE, C. W., R.A.**, 19, Hyde Park Gate South, Kensington Gore, London.
Elected Associate of the Royal Academy, London, 1843; elected full member, 1848.
Silver Medallist.
- 13 OTHELLO RELATING HIS ADVENTURES TO BRABANTIO—Othello—*Shakespeare.*
Lent by R. P. BARROW, ESQ.
- 14 THE MARRIAGE OF GRISELDA—*Chaucer.* *Lent by G. MOORE, ESQ.*
- DAVIS, H. W. B., A.R.A.**, 10, Cunningham Place, St. John's Wood, London.
Elected Associate of the Royal Academy, London, 1873.
- 14a MOONRISE *Lent by W. E. J. ROFFEY, ESQ.*
- DILLON, F.**, 13, Upper Phillimore Gardens, Kensington, London.
- 15 HOUSE OF THE MUFTI SHEIKH EL MAHDI, CAIRO .. *Lent by R. A. COSIER, ESQ.*
- ELMORE, A., R.A.**, 1, St. Alban's Road, Victoria Road, Kensington, London.
Elected Associate of the Royal Academy, London, 1845; elected full member, 1857.
- 16 LEONORA.
- 17 ON THE HOUSETOPS.
- FAED, THOMAS, R.A.**, Sussex Villa, Campden Hill, Kensington London.
Elected Associate of the Royal Academy, London, 1861; elected full member, 1864.

- 18 THE LAST OF THE CLAN. (*Hors concours.*) *Lent by R. SUTTON, ESQ.*
 19 GOD'S ACRE. (*Hors concours.*) *Lent by GEORGE FOX, ESQ.*
FILDES, S. L., The Studio, King Henry's Road, London.
 20 "FAIR, QUIET, AND SWEET REST" *Lent by J. LEWIS, ESQ.*

FRITH, W. P., R.A., 7, Pembridge Villas, Bayswater, London.

Elected Associate of the Royal Academy, London, 1845; elected full member, 1853.
Hon. Member of the Imperial Academy of Fine Arts, Vienna.

- 21 RAMSGATE SANDS *Lent by HER MAJESTY THE QUEEN.*
 LORD FOPPINGTON RELATING HIS ADVENTURES *Lent by H. A. BRASSEY, ESQ., M.P.*

FROST, W. E., R.A., 38, Fitzroy Square, London.

Elected Associate of the Royal Academy, London, 1846; elected full member, 1871.

- 22 UNA AND THE WOOD NYMPHS *Lent by HER MAJESTY THE QUEEN.*

GRAHAM, P., 93, Ladbroke Road, Notting Hill, London.

- 23 A SPATE IN THE HIGHLANDS *Lent by W. CUNLIFFE BROOKS, ESQ., M.P.*

GRANT, SIR FRANCIS, P.R.A., 27, Sussex Place, Regent's Park, London.

Elected Associate of the Royal Academy, London, 1842; elected full member, 1851;
elected President, 1866.

- 24 ASCOT MEET *Lent by the COUNTESS OF CHESTERFIELD.*
 25 PORTRAIT OF MISS GRANT.

HALSWELLE, KEELEY, A.R.S.A., 39½, Old Bond Street, London.

- 26 ROBA DI ROMA *Lent by JAMES GIBSON-CRAIG, ESQ.*

HARVEY, SIR G., P.R.S.A., Edinburgh.

- 27 SCHOOL DISMISSING *Lent by DRYSDALE CARSTAIRS, ESQ.*

HODGSON, J. E., A.R.A., 5, Hill Road, Abbey Road, London.

Elected Associate of the Royal Academy, London, 1873.

- 28 THE SNAKE CHARMER *Lent by G. C. SCHWABE, ESQ.*

HOLLAND, JAMES, the Late.

- 29 VENICE *Lent by A. J. LEWIS, ESQ.*

HOOK, J. C., R.A., Silverbeck, Churt, Farnham.

Elected Associate of the Royal Academy, London, 1850; elected full member, 1860.
Silver and Gold Medallist.

- 30 THE SHIPBOY'S LETTER *Lent by C. P. MATTHEWS, ESQ.*
 31 HOISTING SAIL *Lent by C. P. MATTHEWS, ESQ.*

HORSLEY, J. C., R.A., 1, High Row, Kensington, London.

Elected Associate of the Royal Academy, London, 1855; elected full member, 1864.
Silver Medallist.

- 32 BANKER'S PRIVATE ROOM—Negotiating a Loan *Lent by G. FOX, ESQ.*
 33 CHECKMATE NEXT MOVE *Lent by T. JESSOP, ESQ.*

HULME, F. W., 8, St. Alban's Road, Kensington, London.

- 34 PONT-Y-PAIR, BETTWS-Y-COED, NORTH WALES.

KNIGHT, J. P., R.A., 20, James Street, Buckingham Palace, London.

Elected Associate of the Royal Academy, London, 1836; elected full member, 1844.

- 35 AN OLD STUDENT *Lent by* EDWARD LANGLEY, ESQ.

LANDSEER, SIR E., R.A., 18, St. John's Wood Road, Regent's Park, London.

Elected Associate of the Royal Academy, London, 1826; elected full member, 1831.

- 36 THE SANCTUARY *Lent by* HER MAJESTY THE QUEEN.
 37 THE ARAB TENT *Lent by* H.R.H. THE PRINCE OF WALES, K.G.
 38 PORTRAIT OF SIR E. LANDSEER, R.A. *Lent by* H.R.H. THE PRINCE OF WALES, K.G.
 39 BOLTON ABBEY IN THE OLDEN TIME. *Lent by* HIS GRACE THE DUKE OF DEVONSHIRE.

LEHMANN, RUDOLPH, 1, South Villas, Campden Hill, Kensington, London.

- 40 OUT OF THE WORLD—two Monks making Music
Lent by HENRY SCHLESINGER, ESQ.

LEIGHTON, F., R.A., 2, Holland Park Road, Kensington, London.

Elected Associate of the Royal Academy, London, 1864; elected full member, 1868.

- 41 CLEOBULUS AND CLEOBULE *Lent by* E. L. S. BENZON, ESQ.
 42 AFTER VESPER *Lent by* E. N. BUXTON, ESQ.

LEWIS, JOHN F., R.A., Walton-on-Thames.

Elected Associate of the Royal Academy, London, 1859; elected full member, 1864.

- 43 THE DOUBTFUL COIN *Lent by* C. P. MATTHEWS, ESQ.
 44 A STREET IN CAIRO *Lent by* T. BARING, ESQ., M.P.

LINNELL, J., Redhill, Surrey.

- 45 THE WINDMILL *Lent by* J. EDEN, ESQ.

MARKS, H. S., A.R.A., 15, Hamilton Terrace, St. John's Wood, London.

Elected Associate of the Royal Academy, London, 1872.

- 46 "THE BEGGARS ARE COMING TO TOWN" .. *Lent by* OCTAVIUS COOPE, ESQ.

MILLAIS, J. E., R.A., 7, Cromwell Place, South Kensington, London.

*Elected Associate of the Royal Academy, London, 1853; elected full member, 1863.
 Silver and Gold Medallist.*

- 47 PORTRAIT OF MISS NINA LEHMANN *Lent by* F. LEHMANN, ESQ.
 48 THE SISTERS *Lent by* C. P. MATTHEWS, ESQ.

NICOL, ERSKINE, A.R.A., 24, Dawson Place, Bayswater, London.

Elected Associate of the Royal Academy, London, 1866.

- 49 A CHINA MERCHANT *Lent by* H. W. F. BOLCKOW, ESQ., M.P.

OAKES, J. W., 34, Addison Road, Kensington, London.

- 50 LINN OF MUICK, NEAR BALLATER, ABERDEENSHIRE.

O'NEIL, HENRY, A.R.A., 7, Victoria Road, London.

Elected Associate of the Royal Academy, London, 1860. Double Silver Medallist.

- 51 EASTWARD HO! *Lent by* A. J. LEWIS, ESQ.

ORCHARDSON, W. Q., A.R.A., Kinnerton Street, Wilton Place, London.

Elected Associate of the Royal Academy, London, 1868.

- 52 FALSTAFF *Lent by C. MOXON, ESQ.*

PETTIE, JOHN, A.R.A., St. John's Wood Road, London.

Elected Associate of the Royal Academy, London, 1866.

- 53 TOUCHSTONE AND AUDREY—As you Like it. *Shakespeare .. Lent by C. MOXON, ESQ.*

PHILLIP, JOHN, the Late, R.A.

Elected Associate of the Royal Academy, London, 1857; elected full member, 1859.

- 54 THE DYING CONTRABANDISTA *Lent by HER MAJESTY THE QUEEN.*

POOLE, P. F., R.A., Green Hill, Hampstead, London.

Elected Associate of the Royal Academy, 1846; elected full member, 1861.

- 55 THE PHANTOM HUNTER.—Decameron *Lent by C. L. COLLARD, ESQ.*

PRINSEP, VAL. E., Holland Park Road, Kensington, London.

- 56 A BEAUTY AND A BEAST *Lent by SIR C. MILLS, BART., M.P.*

RAVEN, J. S., 6, Westbourne Park, London.

- 57 THE MATTERHORN *Lent by G. TRIST, ESQ.*

REDGRAVE, RICHARD, R.A., 18, Hyde Park Gate South, Kensington Gore, London.

Elected Associate of the Royal Academy, London, 1840; elected full member, 1851.

- 58 A WAY THROUGH THE WOODS *Lent by J. KELK, ESQ.*

- 59 THE WOODLAND MIRROR *Lent by THOS. BRASSEY, ESQ., M.P.*

RICHMOND, W. B., Beavor Lodge, Beavor Lane, Hammersmith, London.

- 60 THE LAMENT OF ARIADNE.

RIVIERE, B., 16, Addison Road, Kensington, London.

- 61 CHARITY *Lent by COL. LOYD-LINDSAY, V.C., M.P.*

SANT, JAMES, R.A., 43, Lancaster Gate, London.

Elected Associate of the Royal Academy, London, 1861; elected full member, 1869.

- 62 PORTRAIT OF MASTER JOHN ALFRED WILSON-PATTEN.
Lent by the RT. HON. COL. WILSON-PATTEN, M.P.

STONE, MARCUS, Langham Chambers, Portland Place, London.

- 63 EDWARD II. AND HIS FAVOURITE, PIERS GAVESTON .. *Lent by GEORGE FOX, ESQ.*

STOREY, GEORGE A., 58, St. Mary's Terrace, Maida Hill, London.

- 64 THE SHY PUPIL *Lent by JOHN PENDER, ESQ., M.P.*

TURNER, J. M. W., the Late, R.A.

- 65 WALTON BRIDGES *Lent by H. W. F. BOLCKOW, ESQ., M.P.*

WALTON, FRANK, Wotton, Surrey.

- 66 GANDER'S POOL—Landscape.

- WARD, E. M., R.A.**, Lansdowne Road, Notting Hill, London.
Elected Associate of the Royal Academy, London, 1846; elected full member, 1855.
- 67 THE LAST SLEEP OF ARGYLL *Lent by A. BROGDEN, ESQ., M.P.*
- WARD, MRS. E. M.**, Lansdowne Road, Notting Hill, London.
- 68 "THE TOWER, AYE, THE TOWER" *Lent by H. WALLIS, ESQ.*
- WATSON, J. D.**, Nailford, Godalming, Surrey.
- 69 THE POISON'D CUP. *Lent by F. MOWATT, ESQ.*
- WATTS, G. F., R.A.**, Little Holland House, Kensington, London.
Elected Associate of the Royal Academy, London, 1867; elected full member, 1867.
- 70 PORTRAIT OF THE POET BROWNING.
- 71 THE ANGEL OF DEATH.
- YEAMES, WM. F., A.R.A.**, Grove End Road, St. John's Wood, London.
Elected Associate of the Royal Academy, London, 1866.
- 72 QUEEN ELIZABETH AND HER COURT RECEIVING THE FRENCH AMBASSADORS
 AFTER THE NEWS OF THE MASSACRE OF ST. BARTHOLOMEW HAD
 REACHED ENGLAND *Lent by OCTAVIUS COOPE, ESQ.*

GROUP XXV.

WATER-COLOUR PAINTINGS.

- ABSOLON, JOHN**, 106, Palace Gardens Terrace, The Mall, Kensington, London.
Member of the Institute of Painters in Water Colours.
- 73 SIR ROGER DE COVERLEY.
- BARRETT, G., the Late.**
- 74 SOLITUDE *Lent by THOS. BRASSEY, ESQ., M.P.*
- BRIERLY, OSWALD W.**, 38, Amptill Square, Regent's Park, London.
Associate of the Society of Painters in Water Colours.
- 75 HER MAJESTY'S SHIP GALATEA IN 'SYDNEY HARBOUR
Lent by H.R.H. THE PRINCE OF WALES.
- 76 HER MAJESTY'S SHIP GALATEA AMONGST ICEBERGS OFF CAPE HORN.
Lent by H.R.H. THE PRINCE OF WALES.
- 77 WRECKS OF THE ARMADA ON THE COAST OF IRELAND *Lent by H. W. BIRCH, ESQ.*
- CALLOW, WILLIAM**, Great Missenden, Buckinghamshire.
Member of the Society of Painters in Water Colours.
- 78 CATHEDRAL OF LIMBURG-ON-THE-LAHN, SUMMER AFTERNOON.

COOPER, T. S., R.A., Vernon Holme, Harbledown, Canterbury.

- 79 AN EVENING DRINK *Lent by H. A. BRASSEY, ESQ., M.P.*

DEANE, W. W., the Late.

Associate of the Society of Painters in Water Colours.

- 80 THE BULL-RING AT SEVILLE *Lent by W. EDMUND SIBETH, ESQ.*

DOBSON, W. C. T., R.A., Eldon House, Hampstead, London.

Associate of the Society of Painters in Water Colours.

- 81 THE YOUNG NURSE *Lent by W. S. COOKSON, ESQ.*

DUNCAN, E., 36, Upper Park Road, Hampstead, London.

Member of the Society of Painters in Water Colours.

- 82 LANDING SHEEP ON THE SHORE AT PORT MADOC, NORTH WALES.

FOSTER, BIRKET, The Hill, Witley, Surrey.

Member of the Society of Painters in Water Colours.

- 83 ST. MICHAEL'S MOUNT *Lent by EDWARD CROSS, ESQ.*

- 84 LANCASTER *Lent by JOHN H. FOSTER, ESQ.*

FRIPP, ALFRED, 1, Belle Vue, Hampstead, London.

- A DORSETSHIRE WOODMAN *Lent by W. EDMUND SIBETH, ESQ.*

GILBERT, SIR JOHN, A.R.A., Vanbrugh Park, Blackheath, London.

President of the Society of Painters in Water Colours.

- 85 THE VIOLIN *Lent by HER MAJESTY THE QUEEN.*

- 86 THE BATTLE OF NASEBY *Lent by THOS. BRASSEY, ESQ., M.P.*

- 87 A TAVERN BRAWL *Lent by E. J. COLEMAN, ESQ.*

- 88 LOUIS XIV. TRANSACTING BUSINESS WITH HIS MINISTERS IN THE APARTMENTS
OF MADAME DE MAINTENON.

- 89 JOAN OF ARC ENTERING ORLEANS *Lent by CHARLES LEAF, ESQ.*

GOODALL, E. A., 6, Wells Street, Oxford Street, London.

Member of the Society of Painters in Water Colours.

- 90 EARLY MORNING, RIVA DI SCHIAVONE, VENICE.. .. . *Lent by C. P. MELLY, ESQ.*

HAAG, CARL., Ida Villa, 7, Lyndhurst Road, Hampstead, London.

Member of the Society of Painters in Water Colours.

- 91 HAPPINESS IN THE DESERT *Lent by W. S. COOKSON, ESQ.*

* * * "thy love-laboured strain,

"Twixt thee and thine a never-failing bond."—*Wordsworth.*

- 92 DANGER IN THE DESERT *Lent by W. S. COOKSON, ESQ.*

"Thrice is he armed that hath his quarrel just."—*Shakespeare.*

- 93 FILIAL LOVE.. .. . *Lent by H. A. HUNT, ESQ., C.B.*

HALE, WILLIAM MATTHEW, 35, Wigmore Street, Cavendish Square, London.

Associate of the Society of Painters in Water Colours.

- 94 TWILIGHT AFTER RAIN.

HUNT, A. W., Tor Villa, Kensington, London.

Member of the Society of Painters in Water Colours.

- 95 LOCH CORUISHK *Lent by W. S. CAINE, ESQ.*
 96 LLANDECWYN *Lent by W. S. CAINE, ESQ.*

HUNT, W., the Late.

Member of the Society of Painters in Water Colours.

- STILL LIFE—Quinces *Lent by W. EDMUND SIBETH, ESQ.*
 — STILL LIFE—Grapes *Lent by W. EDMUND SIBETH, ESQ.*

MOGFORD, J., 17, Park Road, Haverstock Hill, London, N.W.

Member of the Institute of Painters in Water Colours.

- 97 "DE PERICULO MARIS," Mont St. Michel, Normandy.
Lent by W. EDMUND SIBETH, ESQ.
 98 PARTING RAYS *Lent by W. LEAF, ESQ.*

MOLE, J. H., 7, Guildford Place, Russell Square, London.

Member of the Institute of Painters in Water Colours.

- 99 ON HAMPSTEAD HEATH *Lent by JAMES PATRY, ESQ.*

NEWTON, ALFRED P., 44A, Maddox Street, Regent Street, London, W.

Associate of the Society of Painters in Water Colours.

- 100 SHADES OF EVENING.

PALMER, S., Furze Hill House, Mead Vale, Redhill.

Member of the Society of Painters in Water Colours.

- 101 THE CURFEW *Lent by L. R. VALPY, ESQ.*
 "Oft on a plot of rising ground
 I hear the far-off curfew sound,
 Over some wide-water'd shore
 Swinging slow with sullen roar."—*Il Penseroso, Milton.*
 102 THE TOWER'D CITY *Lent by L. R. VALPY, ESQ.*
 "Such sights as youthful poets dream
 On summer eves, by haunted stream."—*L'Allegro, Milton.*

PINWELL, G. J., 52, Adelaide Road, London.

Member of the Society of Painters in Water Colours.

- 103 AT THE FOOT OF THE QUANTOCKS *Lent by G. E. STREET, ESQ., R.A.,*
Hon. Member of the Imperial
Academy of Fine Arts, Vienna.

POYNTER, E. J., A.R.A., Beaumont Lodge, Wood Lane, Shepherd's Bush, London.

- 104 THE WEST WIND *Lent by A. BALDWIN, ESQ.*
 105 PORTRAIT *Lent by G. HOWARD, ESQ.*

READ, S., 55, Argyll Road, Kensington, London.

Associate of the Society of Painters in Water Colours.

- 106 INTERIOR OF THE CHURCH OF ST. LAURENCE, NUREMBERG
Lent by CHARLES LUCAS, ESQ.

ROBERTS, DAVID, the Late, B.A.

- GENERAL VIEW OF KARNAK *Lent by H. BICKNELL, ESQ.*
 — MOSQUE OF SULTAN RAITBEG, CAIRO *Lent by H. BICKNELL, ESQ.*
 — GENERAL VIEW OF CAIRO *Lent by H. BICKNELL, ESQ.*

SHIELDS, FREDERICK J., Ordsall Old Hall, Salford, Manchester.*Associate of the Society of Painters in Water Colours.*

- 107 RAHAB WAITING THE COMING OF JOSHUA *Lent by SIR WALTER JAMES, BART.*
 108 THE NAUTILUS *Lent by RICHARD JOHNSON, ESQ.*

SMITH, COLLINGWOOD (Treasurer of the Water Colour Society); Wyndham Lodge, Brixton Hill, London.*Member of the Society of Painters in Water Colours.*

- 109 THE PASS OF GLENCOE.
 110 THE QUEEN AND ROYAL FAMILY AT THE THANKSGIVING SERVICE,
 HELD IN ST. PAUL'S, ON THE RECOVERY OF H.R.H. THE PRINCE
 OF WALES, 1872.

TAYLER, F., 38, Avenue Road, Regent's Park, London.*Member of the Society of Painters in Water Colours.*

- 111 THE KEEPER'S DAUGHTER *Lent by W. GILBEY, ESQ.*
 112 ON THE PTARMIGAN HILLS *Lent by W. GILBEY, ESQ.*
 113 SHOOTING THE POPINJAY *Lent by H. A. HUNT, ESQ., C.B.*

"The Green Marksman, as if determined to bring the affair to a decision, took his horse from a person who held him, and, having previously looked carefully to his girths and the fitting of his saddle, vaulted on his back, and motioning with his hand for the bystanders to make way, set spurs, passed the place from which he was to fire at a gallop, and as he passed threw up the reins, turned sideways upon his saddle, discharged his carbine, and brought down the Popinjay."—*Old Mortality, Vol. I., Chap. iii.*

TOPHAM, F. W., Warwick House, 86, Adelaide Road, London.*Member of the Society of Painters in Water Colours.*

- 114 THE EVE OF THE FESTA *Lent by H. A. BRASSEY, ESQ., M.P.*
 115 A PASTORAL *Lent by W. S. COOKSON, ESQ.*

WALKER F., A.R.A., 3, St. Petersburg Place, Bayswater, London.*Member of the Society of Painters in Water Colours.*

- 116 AN AMATEUR *Lent by E. L. S. BENZON, ESQ.*
 117 THE FERRY *Lent by F. LEHMANN, ESQ.*

WARD, E. M., R.A., 1, Lansdowne Road, Notting Hill, London.

- 118 LA TOILETTE DES MORTS *Lent by GEORGE FOX, ESQ.*

WARREN, H., 53, Pall Mall, London.*President of the Institute of Painters in Water Colours.*

- 119 THE MAGI ON THEIR JOURNEY *Lent by HER MAJESTY THE QUEEN.*
 120 THE WALK TO EMMAUS *Lent by the REV. W. A. RICHMOND.*

WEIGALL, C., 233, Brompton Road, London.*Member of the Institute of Painters in Water Colours.*

- 121 LE TÊTE-À-TÊTE INTERROMPU.

ENGRAVINGS.

BARLOW, T. O., A.R.A., Auburn Lodge, Victoria Road, Kensington, London.

122 HOUSE OF COMMONS IN 1860, after J. Phillip, R.A.

123 SISTERS OF MERCY, after Madame Henriette Browne.

124 THE DEATH OF CHATTERTON, after H. Wallis.

BRANDARD, E. P., 2, Albion Grove, Barnsbury, London.

125 MEN-OF-WAR, PLYMOUTH—Rough Weather.

COUSINS, S., R.A., 24, Camden Square, London.

126 BOLTON ABBEY IN THE OLDEN TIMES.

127 LOUIS XVI. AND FAMILY, PRISONERS IN THE TEMPLE.

CRUIKSHANK, G. 263, Hampstead Road, London.

128 FOUR FRONTISPIECES TO "FAIRY LIBRARY."—Etchings.

129 OPENING OF THE GREAT INTERNATIONAL EXHIBITION IN LONDON, IN 1851. Etching.

EVANS, E., Racquet Court, Fleet Street, London.

130 ENGRAVINGS ON WOOD.

FAED, J., 14, Comely Bank, Edinburgh.

131 MEZZOTINT ENGRAVING OF HER GRACE THE DUCHESS OF SUTHERLAND.

132 THE YOUNG WALTONIAN, Mezzotint and Etching.

FROMONT, E.

—	DUTY AND PLEASURE, after C. Green	<i>Lent by the PROPRIETORS OF "THE GRAPHIC" ILLUSTRATED NEWSPAPER</i>
—	TASTING-ORDER AT THE LONDON DOCKS, after W. Small ..	

GRAVES, R., the Late, A.E., 20, Grove Terrace, Highgate Road, London.

133 MRS. GRAHAM, after Gainsborough.

134 MRS. LLOYD, after Reynolds.

135 DUCHESS OF DEVONSHIRE, after Gainsborough.

GREATBATCH, W., 2, Crescent Place, Mornington Crescent, London.

136 DOGS OF MOUNT ST. BERNARD.

137 OUR SAVIOUR, after Carlo Dolce.

HARRALL, H., 4, Palsgrave Place, Temple Bar, London.

138 ENGRAVING ON WOOD.

139 Ditto Ditto.

140 Ditto Ditto.

— Ditto Ditto

JEENS, C. H., 67, St. Paul's Road, Camden Square, London.

141 PARENTS OF CHRIST SEEKING HIM.

142 THE QUEEN AND PRINCE CONSORT DIVIDING THE POLL-TARFF.

LANE, R. J., the Late, **A.E.**

143 PORTRAIT OF H.S.H. PRINCE EDWARD OF SAXE-WEIMAR, C.B.

Lent by MRS. LANE.

143a PORTRAIT OF ALEX. COLVIN, ESQ.

LEIGHTON, JOHN, F.S.A., 12, Ormonde Terrace, Regent's Park, London.

144 PROOFS OF WOOD ENGRAVING, after drawings by Artist.

LEWIS, C. G., 53, Charlotte Street, Portland Place, London.

145 FAMILY OF DEER IN THE FOREST OF FONTAINEBLEAU. Proof.

146 HIGHLAND SHEPHERD.

147 HUNTSMAN GOING TO COVER, after Rosa Bonheur.

NICHOLLS, G. P., Aldine Chambers, Paternoster Row, London.

148 WOOD ENGRAVING, after a drawing by F. W. Lawson.

149 THREE WOOD ENGRAVINGS; one after W. Leacke, and two after Birket Foster.

RIDGWAY, W., 3, Denmark Villas, Acton, Middlesex.

150 THE LIGHT OF THE WORLD, line engraving on copper, after Holman Hunt.

151 THE YOUNG MOTHER, line engraving on copper, after F. R. Pickersgill, R.A.

SADLER, J., 6, Southampton Street, Fitzroy Square, London.

152 OBERON AND TITANIA, after a drawing by Sir Noel Paton, R.S.A.

153 GOING TO THE CHRISTENING, after a drawing by A. Bellows.

154 THE DREAM OF EUGENE ARAM, after a drawing by Gustave Doré.

155 LES MISÉRABLES, after a painting by Gustave Doré.

SAUNDERS, A. N., 12, Surrey Terrace, Lewisham High Road, New Cross, London.

156 LORD LAWRENCE, engraved in Mezzotint, after J. R. Dicksee.

SAUNDERS, G., 12, Surrey Terrace, Lewisham High Road, New Cross, London.

157 CHOOSING THE WEDDING GOWN, after W. Mulready, R.A.

158 BOY WITH SHEEP, after T. Gainsborough, R.A.

SIMMONS, W. H., 247, Hampstead Road, London.

159 "THE POOR, THE POOR MAN'S FRIEND," after Thomas Faed, R.A.

SHARP, C. W., Bretwell, Burnham, Maidenhead.

159a HAMLET, after D. Maclise, R.A.

SLOCOMBE, C. P., 31, King Henry's Walk, Islington, London.

160 AT ST. IVES, CORNWALL.—Pilchard Boats unloading.

161 KENSINGTON GARDENS AFTER RAIN.

SLOCOMBE, E., 31, King Henry's Walk, Islington, London.

162 MARIAN—A fireside study.

163 FOUR ILLUSTRATIONS OF OVID'S METAMORPHOSES.

SLOCOMBE, F., 31, King Henry's Walk, Islington, London.

164 THE RIVER THAMES, FROM THE TOWER OF LONDON.

165 MOONLIGHT, ON THE COAST OF WALES.

STOCKS, LUMB, R.A., 9, Richmond Villa, Seven Sisters' Road, Holloway, London.

166 CLAUDE DUVAL, after W. P. Frith, R.A.

167 "O, NANNIE, WILT THOU GANG WI' ME?" after Thomas Faed, R.A.

168 THE GENTLE SHEPHERD, after Sir D. Wilkie, R.A.

SWAIN, JOSEPH, 6, Bouverie Street, Whitefriars, London.

169 FRAME OF WOOD ENGRAVINGS FOR BOOKS.

THOMAS, W. L.

169a	THE SHEIKH, after Carl Haag	} <i>Lent by the</i> PROPRIETORS OF "THE GRAPHIC" ILLUSTRATED NEWSPAPER.
169b	HOUSELESS AND HUNGRY, after S. L. Fildes	..	..	..	..	..
169c	AN ODALISQUE, after Richter	..	..	..	..	..
169d	THOMAS CARLYLE, after a Photograph	..	..	..	..	..
169e	EMPEROR NAPOLEON III. AFTER DEATH, from Drawing by S. L. Fildes	..	..	..	..	..

TOMKINS, C. A., 8, Dover Terrace, Coldharbour Lane, Camberwell, London.

170 THE MAIDEN'S PRAYER, engraved on Steel, from the original picture by Perrault.

171 PORTRAIT OF THE RIGHT REV. J. W. COLENZO, D.D., BISHOP OF NATAL, engraved
on steel, from the original picture by S. Sidley.

172 JOCHABED.

VINTER, JOHN ALFRED, Lithographer in Ordinary to Her Majesty, 29, Monmouth Road,
Bayswater, London.

173 BALMORAL, 1860, after Sir E. Landseer, R.A.

WARD, G. R., 38, Fitzroy Square, London.

174 DWARKANNAUGHT, TAGORE, after Fred. Say.

175 PASHA OF EGYPT, after T. Brigstocke.

176 EARL OF HAREWOOD AND HOUNDS, after Sir Francis Grant, P.R.A.

WHISTLER, J. A. M., 2, Lindsay Road, Battersea, London.

177 SIX ETCHINGS *Lent by* JAMES ANDERSON ROSE, ESQ.

WILLMORE, A., 4, Compton Street, Regent's Square, London.

178 THE ASHES OF GERMANICUS, after J. M. W. Turner, R.A.

179 THE FOOT BRIDGE, after J. C. Hook, R.A.

180 THE SQUALL, after David Cox

181 A CALM, after David Cox.

SCULPTURE.

ADAMS-ACTON, JOHN, Marguitta House, 103, Marylebone Road, London.

- 182 IL GUIOCATORE DE CASTELLETTO. Price 500 Guineas.

ADAMS, GEO. G., 126, Sloane Street, London.

- 182a MASSACRE OF THE INNOCENTS—Marble Group.
 183 BUST OF H.S.H. THE DUKE OF TECK, in plaster.
 184 MARBLE BUST OF BARONESS BURDETT COUTTS.
 184a COLLECTION OF SILVER MEDALS.

BIRCH, C. B.

- 184b A WOOD-NYMPH *Lent by F. HORNSBY, ESQ.*
 184c MARBLE GROUP, Life Size *Lent by F. HORNSBY, ESQ.*

BOEHM, J. E., The Avenue, Fulham Road, London.

- 185 EQUESTRIAN STATUETTE OF H.R.H. THE PRINCE OF WALES, in the
 dress of his Regiment, the 10th Hussars.
Lent by H.R.H. THE PRINCE OF WALES.
 186 MARBLE BUST OF HER MAJESTY THE QUEEN, from life.
 187 A SHORTHORN BULL AND ENGLISH PEASANT, Group in bronze.
 188 A REARING CART STALLION (Cleveland breed) WITH HIS LEADER, in bronze.

BRUCE-JOY, A., 16, Pembridge Gardens, London.

- 188a MEDALLIONS—THE VISCOUNTESS MONCK.
 188b Ditto THE PRINCE HERMANN DE SOHN-BRAUNFELS.
 188c Ditto PROFESSOR G. G. STOKES, F.R.S.
 188d Ditto PROFESSOR ADAMS, F.R.S.
 188e Ditto H.I.M. THE LATE NAPOLEON III.

DAVIS, EDWARD, 15, Fitzroy Street, Fitzroy Square, London.

- 189 SIR F. RONALD, F.R.S. (Electrician) Marble Bust.
Lent by SAMUEL CARTER, ESQ.

DAVIS, H. W. B., A.R.A., 10A, Cunningham Place, St. John's Wood Road, London.

- 190 TROTTING BULL, in bronze.

DURHAM, JOSEPH, A.R.A., 21, Devonshire Street, Portland Place, London.

Elected Associate of the Royal Academy, London, 1866.

- 191 A STATUETTE, IN BRONZE, OF HIS ROYAL HIGHNESS THE LATE PRINCE
 CONSORT, in the robes of the Grand Master of the Order of the Bath.
 192 "GO TO SLEEP"—a Marble Group of Child and Dog
Lent by EDWARD BROOKE, ESQ.

MARSHALL, W. CALDER, R.A., 115, Ebury Street, Eaton Square, London.

Elected Associate of the Royal Academy, 1845; elected full member, 1852.

- 193 UNDINE—Marble Statue.
 193a A POMPEIAN GIRL—Marble Bust.

MORGAN, G., 41, Pelham Street, Brompton, London.

- 194 SILVER MEDALS; obverse and reverse; Fowke Memorial.

STEPHENS, E. B., A.R.A., 110, Buckingham Palace Road, London.

Elected Associate of the Royal Academy, London, 1864.

- 195 BLACKBERRY PICKING, THE THORN—Marble.

- 196 EUPHROSYNE AND CUPID—Marble Group.

WESTMACOTT, JAMES S., 14, St. George's Road, London.

- 197 EVE—Marble Statuette.

- 198 ANDROMEDA—Marble Statuette.

WOOLNER, THOMAS, A.R.A., 29, Welbeck Street, Cavendish Square, London.

Elected Associate of the Royal Academy, London, 1869.

- 199 MARBLE BUST OF CHARLES DARWIN *Lent by C. DARWIN, ESQ.*

WYON, A. B. & J. S., 2, Langham Chambers, Portland Place, London.

Double Silver Medallist Royal Academy, London, and decorated with the order of Mejidie of Turkey.

- 200 A COLLECTION OF MEDALS.

- 201 IMPRESSIONS OF THE GREAT SEAL OF ENGLAND.

- 202 IMPRESSIONS OF THE GREAT SEAL OF H.R.H. THE PRINCE OF WALES,
HEREDITARY STEWARD OF SCOTLAND.

- 203 THE GREAT SEAL OF CANADA.

ARCHITECTURE.

BLASHILL, THOS., 10, Old Jewry Chambers, London.

- 293a NEW WAREHOUSES, LUDGATE HILL, LONDON.

SEDDON, J. P., 12, Park Street, Westminster, London.

- 203b UNIVERSITY OF WALES, ABERYSTWITH.

- 293c DECORATIONS OF CHRIST CHURCH COLLEGE CHURCH, BRECON.

STREET, GEO. E., R.A., 14, Cavendish Square, London.

Elected Associate of the Royal Academy, London, 1866; elected full member, 1872.

Hon. Member of the Imperial Academy of Fine Arts, Vienna.

- 293d GENERAL VIEW OF THE NEW LAW COURTS, as designed for the Thames Embankment.

- 203e DESIGN FOR NORTH-EAST ANGLE OF THE NEW COURTS OF JUSTICE, STRAND,
LONDON.

WATERHOUSE, ALFRED, 20, New Cavendish Street, Portland Place, London.

Hon. Member of the Imperial Academy of Fine Arts, Vienna.

203/ PLAN AND ELEVATION OF EATON HALL, CHESHIRE, Seat of the Marquis of Westminster.

LE CRAS, J., JUN., *St. Heliers, Jersey*.—Oriental Design for encoignure or corner cupboard. (725)

BLASHILL, THOMAS, 10, *Old Jewry Chambers, London*.—Design for Extensive Bookseller's Establishment in London. (726)

BARNARD, BISHOP & BARNARDS, *Norfolk Iron Works, Norwich*.—Wrought Iron Ornamental Terrace Gates; Palisade in Wrought and Malleable Iron. (295)

GROUP XXVI.

Education, Teaching and Instruction.

EDUCATION: Exhibition of all the Arrangements and Contrivances for the better Nursing, Training and Rearing of Children; their Physical and Mental Development from the first days of their life up to School-time; their Nourishment. Cradles, Nurseries, &c.; Child Gardens (kinter-garten), Child Games and Amusements, Child Gymnastics. TEACHING: Exhibition of School Houses and School Apparatus in Models, Drawings, and Examples. Exhibition of Means of Instruction. The Works and Journals of Instruction. Description and Illustrations of Methods of Instruction. History and Statistics of a School, its Organisation and Laws. ELEMENTARY SCHOOLS: This department will include Apparatus for the Instruction of the Blind, Deaf, Dumb, and Idiots. MIDDLE SCHOOLS: Comprehending Gymnasiums, "Realschulen," or Schools wherein exact Science and Modern Languages are taught. PROFESSIONAL AND TECHNICAL COLLEGES. UNIVERSITIES. INSTRUCTION IN THE MORE LIMITED SENSE: Instruction of Adults through Literature, the Public Press, Public Libraries, and Educational Societies, and Associations for Instruction.

HAWES, GEORGE E., *Chapel Field, Norwich*.—Desks and Seats for Schools. (730)

HAVET, ALFRED G., 24, *Charlotte Square, Edinburgh*.—Educational Works, French and German. (731)

DAMON, ROBERT, *Weymouth*.—Types and Genera of recent Mollusca, with Catalogue. (732)

LOTH, PROFESSOR J. T., 27, *Rutland Street, Edinburgh*.—German Educational Works. French for Children, with Key; Tourist's Conversational Guide in English, French, German, and Italian. (733)

BLACKWOOD, WM., & SONS, *Edinburgh*.—Educational Works—Text Books, &c., of Zoology, Geology, Meteorology, Geography, History, Arithmetic, Physics, Agriculture, Navigation, Etymology, Composition, &c. (734)

BOASE, MISS, *Edinburgh*.—Work, entitled "A Century of Banking, from 1764 to 1864, with Memoranda concerning Scotch and English Banking during that period." (735)

GERRARD, EDWARD, 31, *College Place, Camden Town, London*.—Stuffed

Specimens and Skeletons of Propithecus Edwardsii, Orang Outan & Chlamydomorphus Truncatus; Heads of Moorhwa Vulgaris, Ovis Aries, Caauana Caretta, and Hortulia Sebœ. (736)

RUNDELL, J. B., 34A, *Pembroke Square, Kensington, London*.—Shorthand; a new system, with adaptations to the English, French, German, and Italian Languages. (401)

CALLAGHAN, WILLIAM, 23A, *New Bond Street, London*.—School Furniture, made on the system of Dr. Liebreich, of St. Thomas's Hospital, London, and adopted by the London School Board. (795)

ARMITAGE, DR., *British and Foreign Blind Association*.—Educational Works for the Blind. (737)

SIMMONDS, Peter Leonard, 29, *Cheapside, London*.—Collection of 62 Commercial varieties of Cotton. Collection of 51 samples of Laundry Starches, and edible Meals and Starches, scientifically named, comprising the principal varieties of Arrow-roots, Tapiocas, Sagos, Capavas, &c., of commerce. (742*)

MOSS, JOHN F., 17, *Old Haymarket, Sheffield*.—Patent School Desk, invented by Exhibitor. (716)

ADDITIONAL EXHIBITIONS.

This collection has for its object to illustrate practically, as well as statistically, the nature and extent of the Imports of Raw Material into the Kingdom of Great Britain. As far as practicable, specimens have been procured, which show the general quality of each substance, and the varieties which are originated in different localities; at the same time, the scientific names of the producing animals or plants being generally attached to the articles, will give an interest alike to the man of science and the merchant. The large labels, in addition to a description of the group of substances to which they refer, contain also the statistical information which our Trade-returns show annually, and as these returns are never quite completed until the middle of the year, it has been decided to exhibit the Imports of 1871 instead of 1872, as more accurate information could be obtained of the former than of the latter. The various important firms, without whose help such a collection would have been impossible, have spared neither time nor trouble in aiding the collector, and in many instances these contributions represent considerable money value; and they have helped the more readily, because it has been suggested, that the collection, at the close of the Exhibition, should be left in the Austrian capital, as a contribution to any Polytechnic Institution which may be selected to receive it.

T. C. A.

ROYAL BRITISH COMMISSION OF THE VIENNA UNIVERSAL EXHIBITION OF 1873, 41, *Parliament Street, London*.—Collection of British Imports, collected and arranged by Professor Archer. (740)

SAMUELSON, E., *Liverpool*.—Tobaccos. (740)

SWAN BROTHERS, *Kirkcaldy, N.B.*—Baltic Flax. (740)

MINIER, NASH, & NASH, *London*.—Flower Roots. (740)

HAZEON, THOMAS, & COMPANY, *Leadenhall Street, London*.—Hone and other Stones for Sharpening Tools, &c. (740)

BOWES, J. L. & BROTHER, *Liverpool*.—Wools. (740)

MATTHEWS, J., & COMPANY, *Liverpool*.—Oils and Drysalteries. (740)

BENCKE & SHARMAN, *Liverpool*.—Fibres, various. (740)

STEAD BROTHERS, *Liverpool*.—Cotton Wool. (740)

HUBBUCK, J., *Liverpool*.—Samples of Foreign Grain and Breadstuffs imported into Liverpool. (740)

BOSTOCK & ABINGTON, 20, *James Street, Liverpool*.—Hops. (740)

NEWTON, KEATES, & COMPANY, *Liverpool*.—Metallic Ores. (740)

BANNER, SAMUEL, *Liverpool*.—Petroleum Spirit and Oils; Rosin, Turpentine, Cotton Seed Oil, and Olive Oil. (740)

BRANCKER, J. B., *Liverpool*.—Colonial Sugars and Coffees. (740)

BARUCHSON, ARNOLD, & COMPANY, *London, Liverpool, and Greenock*.—Beetroot Sugar, imported from France, Germany, and Austria. (740)

TOBIN, J. A., *Liverpool*.—African Oil Seeds. (740)

McANDREWS & COMPANY, *Liverpool*.—Dried Fruits and Nuts. (740)

JOHNSTONE, S. P., *Liverpool*.—Brazilian Sugar. (740)

SINGLEHURST, R., & COMPANY, *Liverpool*.—Brazilian Fruits. (740)

DARBYSHIRE, MCKINNELL & COMPANY, *Liverpool*.—Series of Animal Products, imported into Great Britain from the River Plate, South America. (740)

NEILSON, H., *Liverpool*.—South American Cotton. (740)

HOW & BARCLAY, *Liverpool*.—Cocoas. (740)

EVANS, LESCHER & EVANS, 60, *Bartholomew Close, London*; and EVANS, SONS & COMPANY, *Liverpool*.—Collection of the Substances imported into Great Britain, for Medicinal purposes. (740)

PIESSE & LUBIN, *London*.—Perfumes. (740)

LEWIS & PEAT, *London*.—Drugs, Gums, Drysalteries, and Colonial Produce. (740)

MEYERS & DAVIS, 56, *Southwark Street, London*.—Canes, Sticks, and Rattans in the rough, for walking and umbrella sticks, furniture, and fishing-rods. (740)

ROSE & WILSON, *London*.—Oil Seeds and Oils. (740)

PRICE'S PATENT CANDLE COMPANY, *London*.—Ozokerit. (740)

MYERS, M., *London*.—Ivory Tortoiseshell Shells, &c. (740)

WIGAN & Co., *London*.—Isinglass. (740)

PATRY & PASTEUR, *London*.—Indigo. (740)

ANDRADÉ, DE COSTA, & COMPANY, 7, *Cripplegate, London*.—Feathers for Ornament. (740)

HEAL & SON, *London*.—Bedfeathers. (740)

GARDINER, JOSEPH, & COMPANY, *London*.—Hard Woods. (740)

BURKE & COMPANY, *London*.—arbles. (740)

JOHNSON, MATTHEY & COMPANY, *London*.—Metals. (740)

FORTNUM, MASON & COMPANY, 182, *Piccadilly, London*.—Tea, Coffee, Foreign Pickles, Nuts, Preserved Fruits and Vegetables, and various foreign products. (740)

EATON, H. W., & SONS, 33, *Old Broad Street, London*.—Silk, raw, thrown, spun, and waste, and cocoons. (740)

GORDON, J., & COMPANY, *Liverpool*.—Cotton Wool. (740)

SMITH, R. M., *Leith*.—Flax, Tow, and other fibres; Baltic Grain and Pulse. (740)

BROTCHIE, R., & COMPANY, *Leith*.—Chicory. (740)

COWAN, A., & SONS, *Pennicuik, near Edinburgh*.—Paper Materials. (740)

CUNNINGHAM, J. & J., 102, *West Bow, Edinburgh*.—Collection of Oil-Cakes and Manures imported into Great Britain. (740)

LAWSON SEED & NURSERY COMPANY, *Edinburgh*.—Collection of Agricultural Seeds imported into Great Britain. (740)

HUME, JOHN, *Edinburgh*.—Bristles. (740)

McLEAN & HOPE, *Leith*.—Paper Materials. (740)

DUNDEE SEAL & WHALE FISHING COMPANY (DAVID BRUCE, Manager), *Dundee*.—Whalebone, Narwhal Horn, Oils, &c. (740)

KEILLER & SONS, *Dundee*.—Orange, Lemon and Citron Peel. (740)

GILROY, BROTHERS, *Dundee*.—*Jute*. (740)

PATENT PLUMBAGO CRUCIBLE COMPANY, *Battersea, London*.—*Plumbago*. (740)

BAILDON, H. C., 73, *Prince's Street, Edinburgh*.—*Mineral Waters*, imported into Great Britain from the continent of Europe, with salts derived from them; two specimens of American Mineral Waters. (740)

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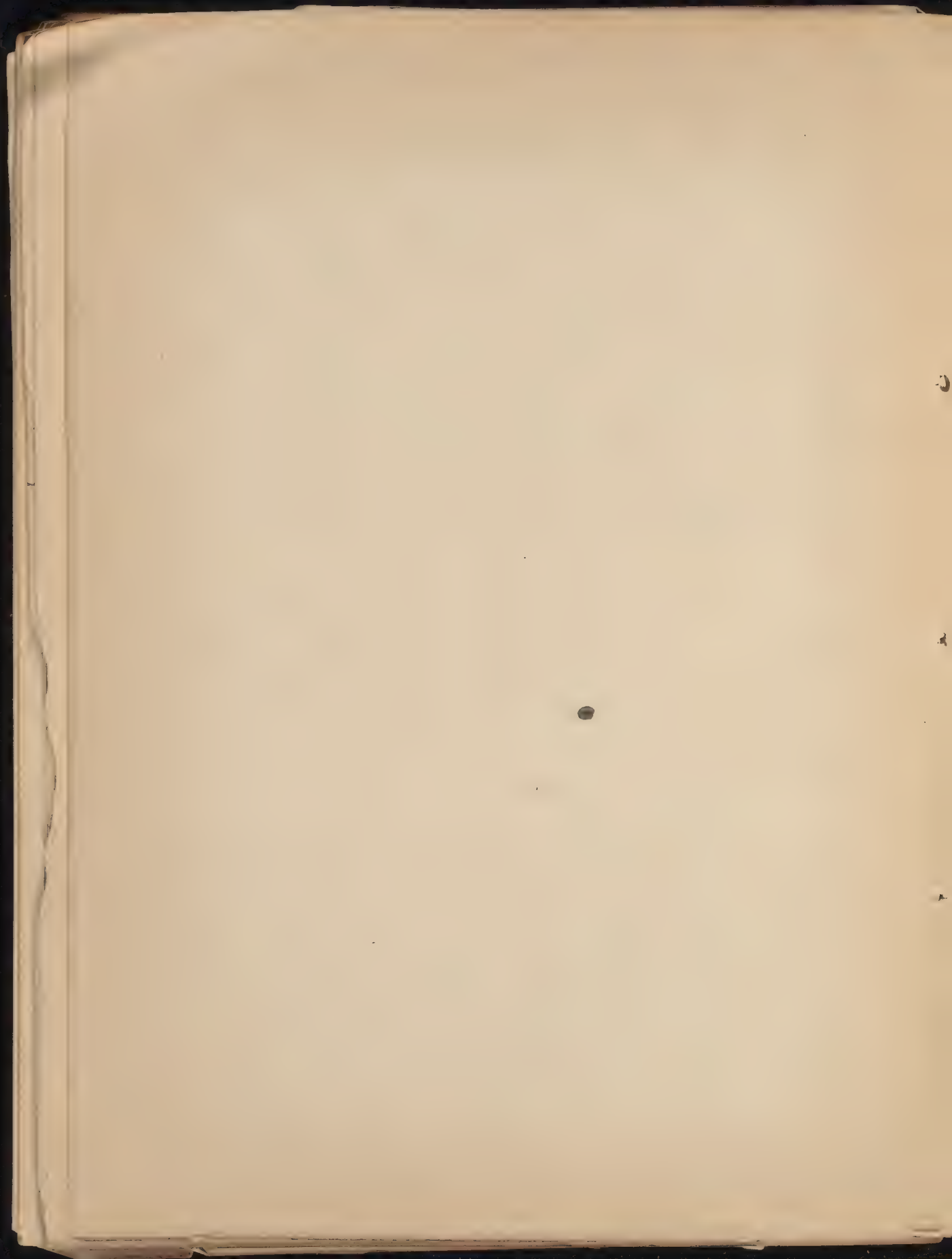
for manure, &c. 357A to 361, Waste Rigging for re-use. 362 to 365, Illustrations of the use of Waste Silk. 366 to 368, Glycerine Suds, Price's Candle Company, London. Water from the boiling of acidified Palm Oil, containing Glycerine formerly allowed to run to Waste; Rock Glycerine obtained from the water of the boiling tubs, after neutralisation of the free acid and concentration of the resulting weak solution of Glycerine. Price's pure Glycerine, for medicinal and other purposes. Uses of Animal Hair and Waste Wool. 369 to 386, Illustration of, and application of Human, Horse, and other Hair. 387 to 392, Skin, Wool, &c., from tanneries; White Cape Sheep Wool, 7½d. per lb.; White Goat's Hair, for mops, yarns, coarse blankets, &c., price, white, 6½d. per lb., grey, 2½d. per lb.; Felt Soles from Cow Hair; Hair Felt for steam packings, Plasterer's Hair, for using with mortar; the Cow Hair collected from tanneries, worth £10 to £12 per ton. 393 to 400, Hide and Skin Waste Glue pieces, old Parchments for Glue, Gelatine, Manure, &c. 401 to 403, Blood Albumen, Dried Blood for Dyeing and for Manure. 404 to 406, Uses of Scrap Leather and Leather Waste. 407 to 427, Uses of Bones, Refuse Bones, ¼ inch Bones for manure, Bone Dust, Bone Ash, Dissolved Bones, Calcined Bones, Rough Animal Charcoal, Grain ditto, Powdered ditto, Bone on Ivory Chart, Sulphate of Ammonia, Brown Bone Fat, White Bone Fat; applications of Bone Cuttings and sections; Shank Bone of Giraffe. 428 to 436, Applications of Horns, Hoofs, and Antlers, Glue Handles, &c.; Polished Ox-Hoof Pincushion, Horse-hoof Candlesticks, Hartshorn Shavings, Prussiate of Potash, &c. 437 to 441, Uses of Ivory Cuttings, Ivory Dust, &c. 442 to 447, Uses of Waste Feathers and Quills for Bedding, Toothpicks, Handles for Camel's Hair Pencils, Pipemouth Pieces, Waste for Manure, Emu Feathers Dyed for Ornaments, Porcupine Quills. 448 to 468, Industrial uses of common or waste Shells, contributed by Mr. S. Jacob, Houndsditch, London. 468A, the Money Cowry (*Cypria moneta*), used for small payments in Africa and India; various species of Cowry used for making Studs, Links, Snuff-boxes, &c.; Venice Shells, for head-dresses, necklets and bracelets; variously

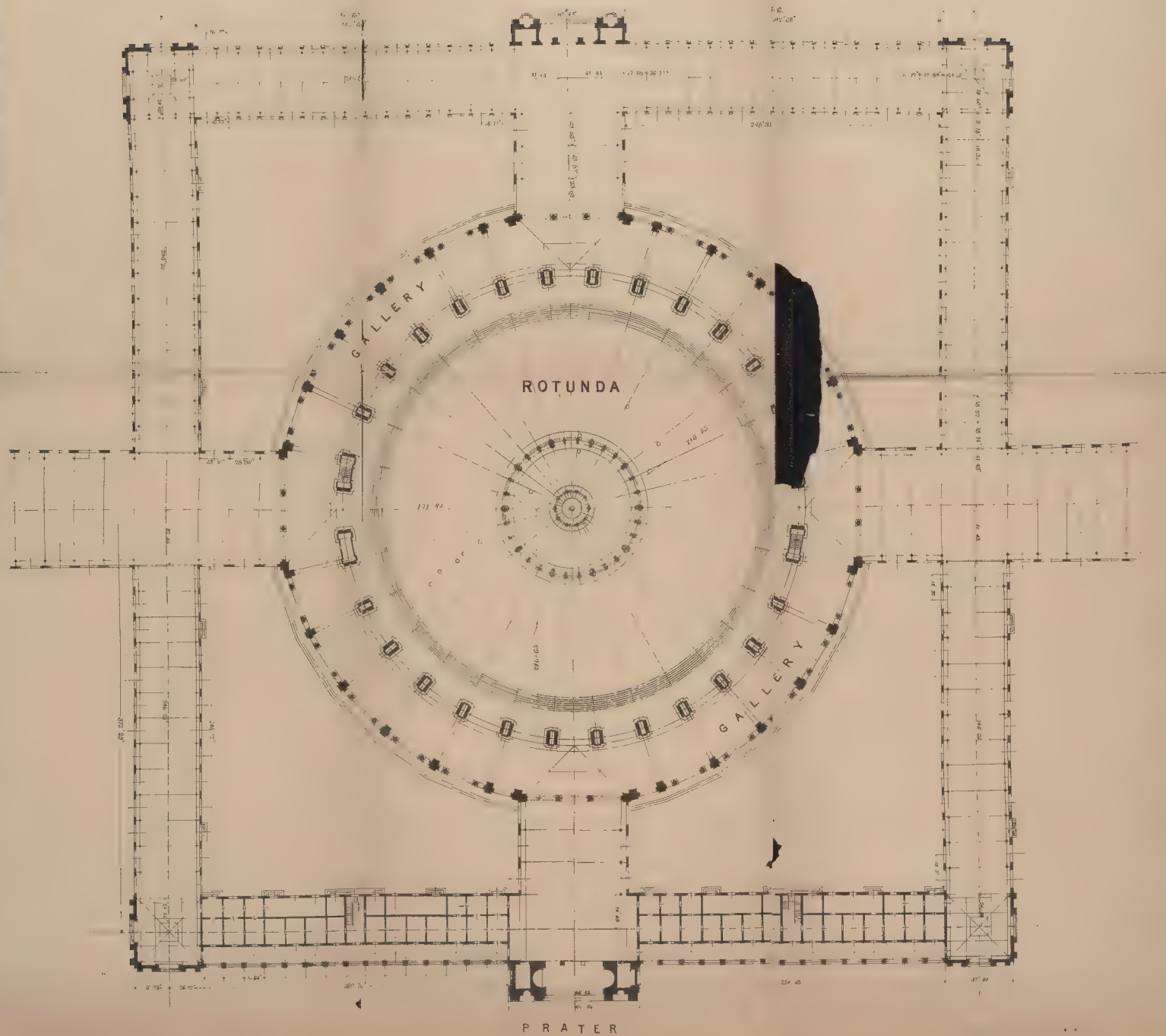
named small Shells, used for covering boxes, making shell flowers, pincushions, and other ornamental objects; Small Pearl Oyster-shells from Ceylon, formerly wasted, now used for their ; Pearl Buttons; Shell Lime; Shells used for holding gold and silver paint. 469 to 480, Utilisation of Waste from the Fisheries; Eel Skins for whip lashes, &c.; Sole Skins for clarifying coffee; Fish Maws, Brazil Gilbakre Glue of West Indian Isinglass (*Siluous Paskerii*); Canadian Shred Isinglass (seemingly fish bones); Fish Scales for artificial flowers and other ornaments; Cuttle-fish Bone, for tooth-powder and pounce; Shark's Fin; Gelatinous Edible; Shark Oil; Tunny-fish Oil; Sardine Oil; Dog-fish Oil; Penquin Oil; Neatsfoot Oil; Frame showing Uses of a Dead Horse. 482, 483, Uses of Waste Sponge. 484, Pipe Coral, used for making tooth powder. 485, Rabbit's Down, for stuffing beds, sold at 4d. per lb. 486, Egg Albumen. 487 to 492, Utilisation of Rags of mixed animal and woolly fibres under Mr. F. O. Ward's chemical process. 493 to 508, Illustrations of Alum Manufacture, contributed by Mr. P. Spence, Manchester, 1, Raw Shale of the coal measures; 2, Shale calcined ready for digestion in sulphuric acid; 3, Pyrites as used in patent calciner for sulphuric acid making; 4, Gasworks' Sulphuretted Oxide as used in patent kilns for sulphuric acid making; 5, Pyrites after its sulphur has been burnt out; 6, Gasworks' Oxide after its sulphur has been burnt out; 7, Nitrate of Soda as used in sulphuric acid making; 8, Sulphuric Acid (specific gravity 1.60), equal 120 degs., as used for alum making; 9, Refuse Ammoniacal Liquor of the Gasworks, as used for alum making; 10, First Crystals in their mother liquor; 11, First Crystals washed; 12, Lump Alum finally crystallised; 13, Mother Liquor of the final crystallisation; 14, Ground Alum; 15, Phosphate of Alumina from the West Indies; 16, Crystal of Alum. 509 to 512, Recovery of Photographers' waste; from Mr. J. Solomon, Red Lion Square, London:—1, Waste Cuttings from paper impregnated with silver; 2, Burnt Paper Dust; 3, Waste Developing Water acted on by copper; 4, Nitrate of Silver as recovered. 513 to 516, Specimens and uses of Asphalte. 517 to 522, Auriferous and Titanic iron sands, useful for moulding purposes and smelting. 528, 529, Residues

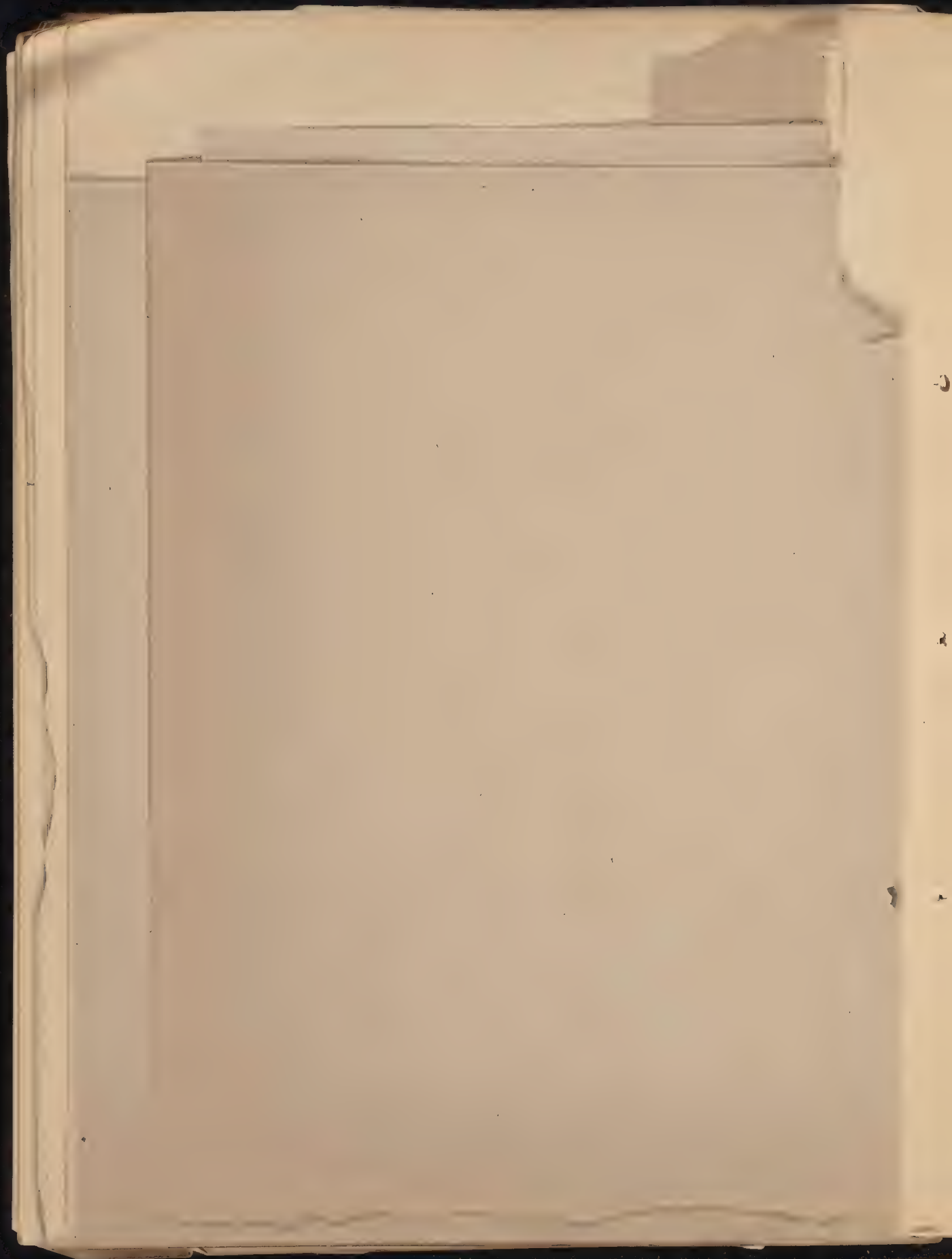
from Gas Making, coke, breeze, ashes, coal dust and coal tar, coal pitch, ammoniacal liquor. 530, 531, New uses for Asbestos, Asbestos Painting Company, Glasgow. 537 to 540, Illustrations of Aniline Dyes. 34 samples of Dyes from Messrs. Brooks, Simpson, & Spiller, London; Arsenic and Picric Acid from Messrs F. C. Calvert and Co. Manchester. 541 to 552, Various waste Substances utilised; Mosaic Pavements made by Female Convicts: Powered Mica or Talc; Fishery Salt; Old iron Horseshoes and Nails for remelting; Plumbago Chips; Crude Ozokerit or Mineral Resin, Soot, Spanish Pyrites for sulphuric acid, and the residue for copper smelting, Antimony Slag for paving. 553 to 575, Twenty-two specimens illustrating the Antracene and

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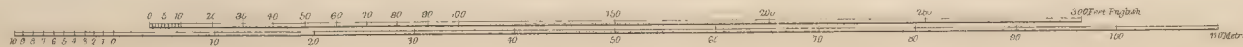
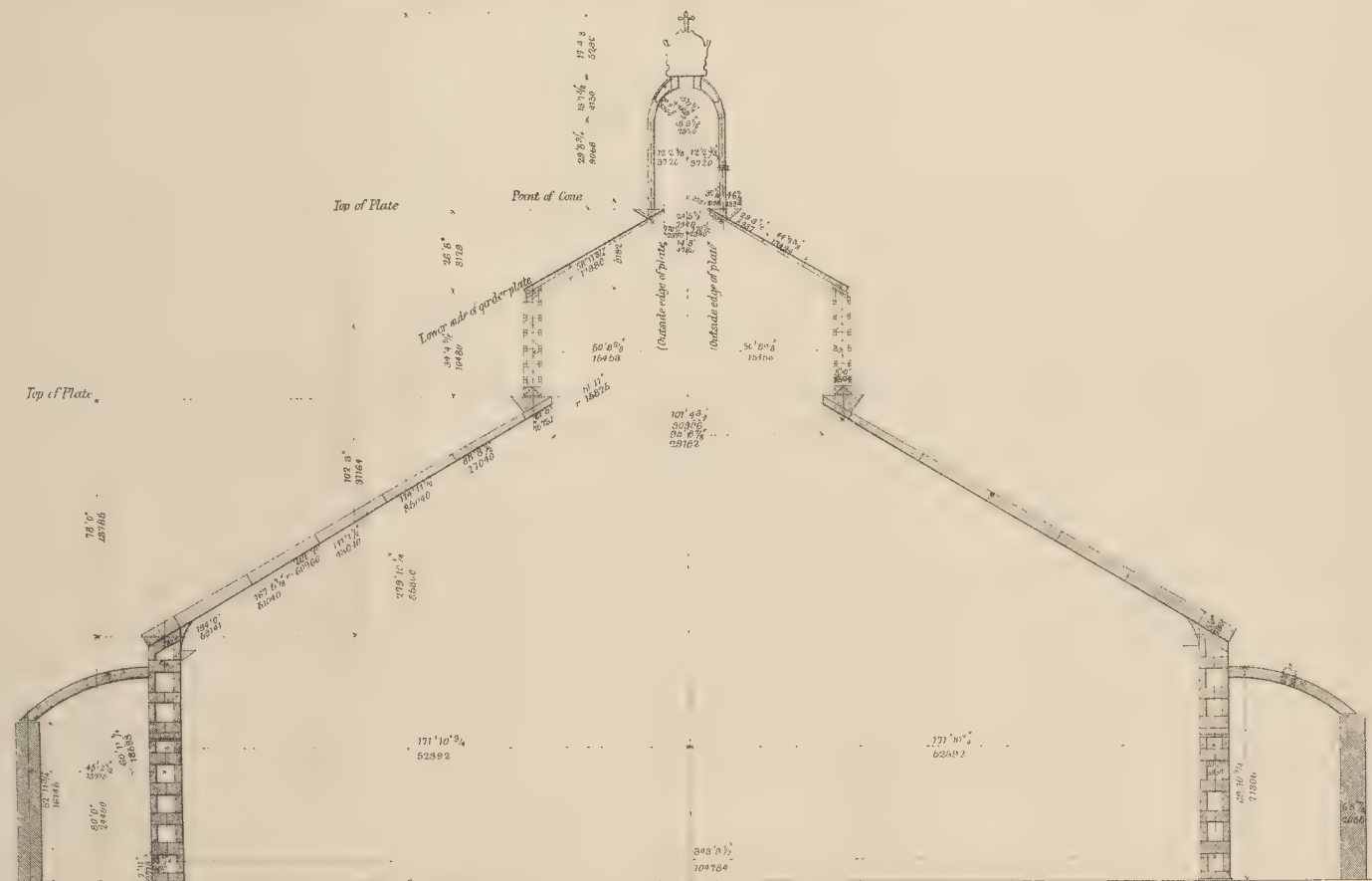
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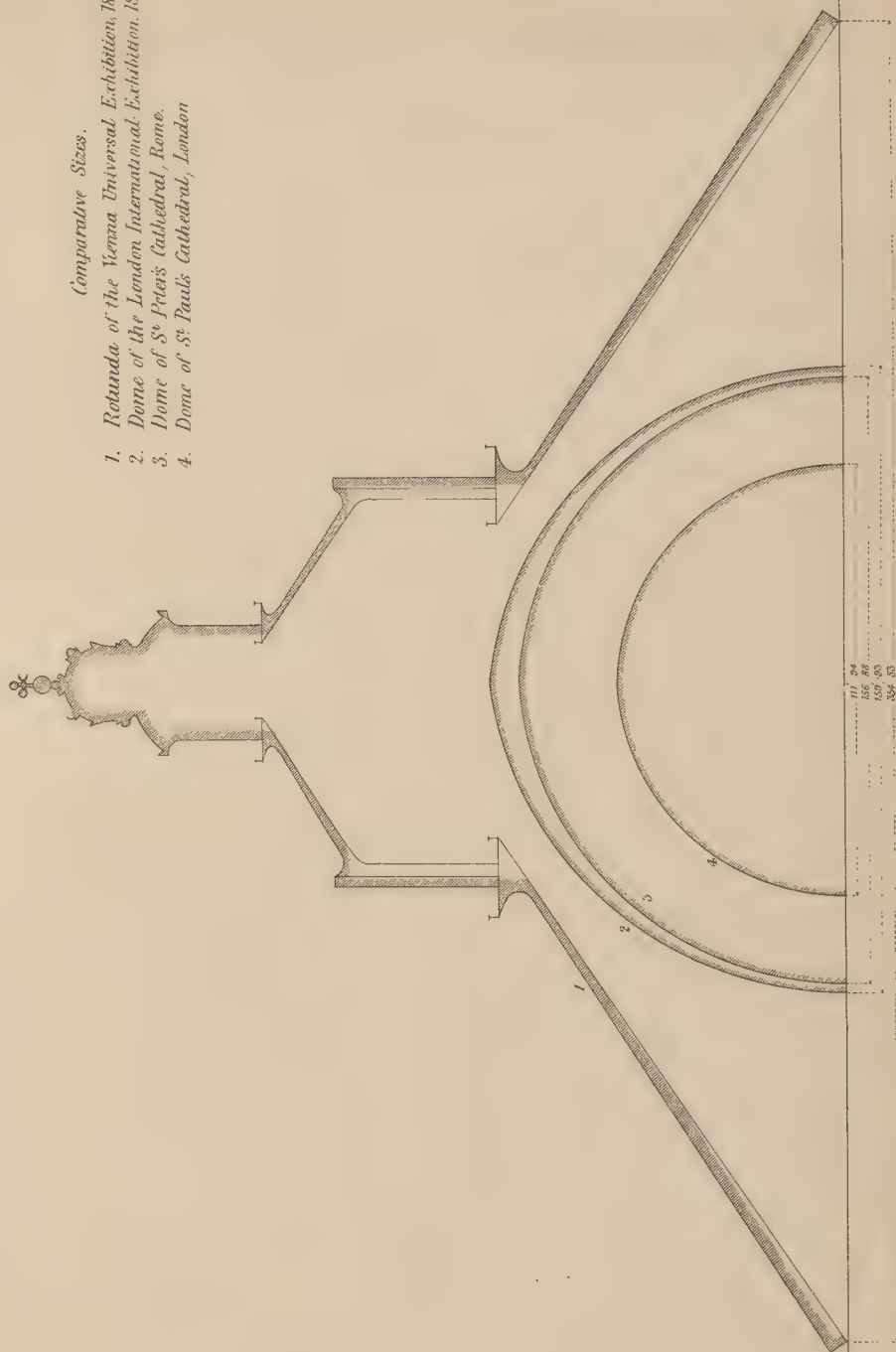
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1. Rotunda of the Vienna Universal Exhibition, 1873.
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VAYASSEUR, J., & Co. —	WATKINS, A. J. —
	WILLIAMSON, W. —
TRAMWAY CARS.	WATER SUPPLY APPARATUS AND FITTINGS, WATER BOILING APPARATUS, WATER METERS.
BOYD, H. P., & Co. —	BENHAM & SONS —
HOLMES & TAYLOR —	BLAKEBOROUGH, JOSEPH —
NORMAN, W. S. —	BLEWS, WILLIAM, & SONS —
TRAVELLING ARTICLES, TRUNKS, &c.	DEWRANCE, J., & Co. —
COLTMAN, W. —	GABRIELLI, A. —
DREW, J. & Co. —	HAWKSLEY, T., Pres. Inst. C.E. —
MIDDLEMORE, WILLIAM —	KENNEDY'S PATENT WATER METER COMPANY —
TRAVELLERS' INFORMATION OFFICE.	LAURENCE & Co. —
COOK, THOMAS & SON —	WARNE, W. & Co. —
TUBES, TUBE EXPANDERS, AND SCRAPERS.	WARNER & SONS. —
BLEWS & SONS —	WEBB & SON. —
BROUGHTON COPPER COMPANY —	WATERPROOF ARTICLES.
BROWN & Co. —	BIRNBAUM, B. —
BUDDE, C. & Co. —	NICOLL, D., & Co. —
EVERITT, ALLEN & SONS. —	WARNER, W., & Co. —
RUSSELL, JAMES & SONS, (Limited) —	
TWIBILL, JOSEPH —	WAX, WAX CANDLES, &c.
WARNE, W. & Co. —	FIELD, J. C., & J. —
WHITLEY, PARTNERS —	HILL, H., & SONS —
WINFIELD & Co. —	STEPHENS, H. C. —
TURBINES.	WEIGHTS AND WEIGHING MACHINES.
WARNER & SONS —	BAXTER, W. H. —
UMBRELLAS, PARASOLS, &c.	BLEWS & SONS —
COLLINGS & WALLIS. —	JOHNSON, MATTHEY & Co. —
DAVIS, G., & SON. —	SILVESTER, R. C. —
SANGSTER & Co. —	WHITLEY, PARTNERS —
SLATER, BUCKINGHAM, & Co. —	WHIPS AND WALKING STICKS.
WELCH, MARGETSON, & Co. —	BRACE, H., & Co., (Limited) —
VARNISHES.	DAVIS, G., SON & Co. —
BEWICKE, DAVID, & Co. —	ELLAM, BENJAMIN —
	MEYERS & DAVIS. —

SCHLETTER & Co.	—
SWAINE & ADENEY	—
WINES AND SPIRITS.	
CANTRELL & COCHRANE	—
PARKINGTON, J. R., & Co.	—
WINNOWER MACHINES.	
NICHOLSON, W. N. & SON	—
REID, BEN, & Co.	—
WEETMAN, JOHN	—
WIRE, WIREWORK, AND WIRE BRIDGES.	
BARNARD, BISHOP & BARNARDS	—
BROWN, J. B., & Co.	—
BUDDE, C., & Co.	—
CORCORAN, BRYAN, WITT & Co.	—
CLARKE & DUNHAM	—
EVERITT, ALLEN, & SONS	—
FARROW & JACKSON	—
JOHNSON, RICHARD, & NEPHEW	—
REID, BENJAMIN, & Co.	—
TAYLER, D. F., & Co.	—
WILSON-HAWKSWORTH, ELLISON & Co.	—
WINFIELD & Co.	—
WOOD CARVING.	
MINNS, J.	—
WOOD, WOODWORK AND WOODWORKING MACHINERY.	
ELLIS, WILLIAM	—
GORDON, LT.-COL. R.E.	—
HOPTON, HENRY, & SON	—
JACOB, T.	—
NEW ZEALAND	—
POWIS, C., & Co.	—
POWIS, JAMES, WESTERN, & Co.	—
RANSOME, A., & Co.	—
ROBINSON, T., & SON	—
SCOTT, GEORGE L.	—
WORSSAM, SAMUEL, & Co.	—
WOOL AND WOOLLEN YARNS.	
ATKINSON, R., & Co.	—
BLISS, W., & SON	—
BOWES BROTHERS	—
JONES, PRYCE	—
MITCHELL, J., & Co.	—
NEAVE, S., & SONS	—
NEW ZEALAND	—

WOOL WORKING MACHINERY.	
MCAUGHT, J. & W.	—
PLATT BROTHERS & Co. (Limited)	—
WOOLLEN, WORSTED, AND MIXED FABRICS.	
BLISS, W., & SON	—
BRACE, H., & Co. (Limited)	—
BIRCHALL, J. D., & Co.	—
COGSWELL, J., & Co.	—
DAY, HOWGATE, & HOLT	—
HEPWORTH, B., & SON	—
HINCHCLIFFE, J. & J.	—
HITCHCOCK, WILLIAMS, & Co.	—
HOOPE, C., & Co.	—
JACOBY, M., & Co.	—
JONES, PRYCE	—
JONES, EVANS, & Co.	—
KERR, SCOTT, & SON	—
KING, W.	—
NEWELL, C. J.	—
NEW ZEALAND	—
NICOLL, D., & Co.	—
POOLE, H., & Co.	—
SCARBOROUGH, BROTHERS	—
SCOTT, WALTER, & SONS	—
SMITH, W., JUNR.	—
STRACHAN & Co.	—
STRETTON & Co.	—
STUBLEY, G. & J.	—
WATERS, J. & E., & Co.	—
WEBSTER, J., & SON	—
WELCH, MARGETSON, & Co.	—
WHITEHEAD, R. R., & BROTHERS (Limited)	—
ZOSSENHEIM, BROTHERS	—
WORK BOXES.	
BETJEMANN & SONS	—
MACDANIEL & Co.	—
TAYLER, D. F., & Co.	—
WRITING DESKS, SLATES AND MATERIALS.	
BETJEMANN & SONS	—
GOGGIN, JEREMIAH	—
PEN-YR-ORSEDD SLATE QUARRY CO.	—
YARN PRINTING MACHINE.	
BARRACLOUGH, THOMAS	—

INDIA.

The Collections from India have not arrived in time to allow of their being catalogued in this edition.

BRITISH COLONIES.

VICTORIA.

Victoria is situated at the south-east of the continent of Australia, and is bounded on the west by the Colony of South Australia. On the north and north-east by the Colony of New South Wales, and on the south and south-east by the Southern Ocean. The area of Victoria is 86,831 square miles, or 55,571,840 acres. The whole continent of Australia is estimated to contain about 3,000,000 of square miles, and Victoria consequently occupies barely a thirty-fourth part of its surface. Great Britain, exclusive of the islands in the British seas, contains 89,644 square miles, and is therefore slightly larger than Victoria. Wheat produced in Victoria, in 1870, was 5,697,056 bushels; horned cattle, 721,096; 76,334,480 lbs. of wool was exported in 1871. From its geographical position, Victoria enjoys a climate far more genial to Europeans than any other colony within the continent of Australia. In regard to heat, the weather is never severely oppressive except during the prevalence of hot northerly winds, and these occur only at intervals during the summer months.

The quantity of gold raised from the date of the first discovery (1851) to 31st Dec., 1871, is estimated at 40,749,848 ozs., which at 4*l.* per oz. gives the value as 162,699,392*l.*

There are 330 miles of railway completed in Victoria, and in full operation.

A large extension of the various lines is now being carried out.

Stage-coaches run to all parts of the Colony, except those for which railway communication is available.

RATES OF LABOUR ON FARMS.—The average rate of wages on farms, which varies considerably in different districts, is, ploughmen, per week, 26*s.*; farm labourers, per week, 17*s.*; married couples, per annum, 57*l.* 10*s.*; females, per week, 10*s.* 8*d.*; mowers per week, 29*s.* 6*d.*, per acre, 6*s.*; reapers, per week, 31*s.*, per acre, 15*s.*; threshers, per bushel, 6*d.*

RATES OF LABOUR ON STATIONS.—The average rate of wages on squatting stations is:—Stockmen, per annum, 45*l.* 6*s.* 6*d.*; shepherds, per annum, 35*l.*; hutkeepers, per annum, 28*l.* 3*s.* 6*d.*; married couples, per annum 51*l.*; females, per annum, 26*l.* 14*s.*; station labourers, per week, 16*s.*; sheepwashers, per week, 18*s.*; shearers, per 100 sheep shorn, 13*s.* 5*d.* This is also subject to variation in different districts.

LIVE STOCK ON FARMS AND STATIONS.—The number of live stock on farms and stations in 1870 was estimated at—horses, 161,830; milch cows, 179,661; cattle, 512,857; sheep, 9,923,663; pigs, 111,464; total, 10,889,475.

EXTENT AND VALUE OF GOLD WORKINGS.—A return made during the year 1869 gave—number of distinct quartz reefs proved to be auriferous, 2,881; extent in square miles of auriferous alluvial and quartz ground worked upon, 905½; estimated value of gold mining claims, 8,539,241*l.*

A full and classified catalogue of the contributions from Victoria has been printed by order of the Commissioners.

ACCLIMATISATION SOCIETY, Melbourne.—Silk Cocoons, and Ostrich Plumes.

AJAX GOLD MINING COMPANY, Castlemaine.—Quartz, with Statistics.

AUSTRALIAN MEAT PRESERVING COMPANY, Market Buildings, Melbourne.—Preserved Meats, Poultry, Soups, &c.

BAND OF HOPE & ALBION CONSOLS COMPANY, Ballarat.—Quartz and Washdirt, with Statistics.

BARDWELL, W., Ballarat.—Photographic Views.

BENCRAFT, G., & COMPANY, *Little Flinders Street, Melbourne*.—Maize Meal.

BEST, JOSEPH, *Great Western, Wimmera*.—Wines.

BLEASDALE, Rev. J. I., D.D. — "On Colonial Wines," a Paper read before the Royal Society of Victoria; "New Industries: the Olive, the Sweet Chestnut, Fig-Trees and Figs."

BOCK, A., *Foster Street, Sale*.—Photographic Views.

BOSISTO, JOSEPH, *Richmond*.—Chemical and Pharmaceutical Preparations from Australian Vegetation.

BRACHE, J., 112, *Collins Street West, Melbourne*.—Description of Eldorado Mines, and Transactions of Mining Institute.

BRUHN, BROTHERS.—Wines.

BUCKLEY, EDWARD, *Newbridge*.—Wheat.

BURSTON, S., & COMPANY, 123, *Flinders Street East, Melbourne*.—Barley.

CAROLIN, J. P., *Kyneton*.—Photographic Views.

CASTELLA, H., DE, *St. Huberts, Yering*.—Wine and Brandy.

COHN & COMPANY, 8, *Hawke Street, West Melbourne*.—Fur Muffs, and Collarets.

COLAC SHIRE COUNCIL, *Colac, Victoria*.—Photographic Views.

COOPER & PAYNE, *Salt Water River, Melbourne*.—Preserved Meats and Soups.

CORNELL, F., *Bairnsdale*.—Photographic Views.

COSTERFIELD GOLD & ANTIMONY COMPANY, 52, *Elizabeth Street, Melbourne*.—Antimony Ores.

CRIPPA, FABRIZIO, *Spring Creek, Hepburn*.—Wines.

CURRIE, J. L., *Larra, Lismore*.—Merino Wool.

DARKE, D. H., *Richmond*.—Models of Aboriginal Weapons.

DAVIES, E., & SON, *Weston Street, Brunswick, Victoria*.—Tanned and Curried Calf-Skins.

DAVIES, JOHN, *Moonee Ponds*.—Wines.

DOWLING, T., *Jellalabad, Darlington*.—Wool.

FALLON, J. T., *Albury*.—Wines.

FICK, H. K., *Campaspe*.—Wines.

FOX, JOHN, & COMPANY, *Yarra Bank, Emerald Hill*.—White Leather for Saddlery.

FRANCIS, J. G., *Sunbury*.—Wines.

FRENCH, CHARLES, *Melbourne*.—Wood-boring Insects (*Coleoptera*).

GOLDEN FLEECE COMPANY.—Quartz and Photographs.

GOLDSBROUGH, R., & COMPANY, *Bourke Street West, Melbourne*.—Wool.

GOULBURN SHIRE COUNCIL, *Goulburn*.—Wheat.

GRAY, ALEX., & COMPANY, *Albion Mills, Geelong*.—Woollen Tweeds and Shawls.

GREAT EXTENDED HUSTLERS' REEF COMPANY, *Sandhurst*.—Block of Auriferous Quartz, with Statistics.

GROSSE, FREDERICK, *Sandhurst*.—Wines.

GUERARD, J. E. VON, *Gipps Street, East Melbourne*.—Oil Paintings.

HAGENAUER, F. A., *Ramahyuck Mission Station, Lake Wellington*.—Arrowroot.

HAMEL & FERGUSON.—Specimens of Lithographic Engraving.

HAPPY VALLEY COMPANY, *Running Creek, Ballarat*.—Photographs and Statistics.

HARVEY & DIMDEN, *Geelong*.—Photographic Views.

HEINE, AUGUST, *Sheepwash, Sandhurst*.—Wines.

HEINE & GREIFFENHAGEN, *Strathfeldsaye, near Sandhurst*.—Wines.

HOPE, R. C., *Lynnburn, Geelong*.—Wines.

HOPE MINING COMPANY, *Wood's Point, Gipps Land*.—Quartz, Antimony, Pyrites, Granite, &c.

INDUSTRIAL AND TECHNICAL MUSEUM, *Melbourne*.—Collection of Specimens of native Woods.

INTERNATIONAL EXHIBITION, COMMISSIONERS OF, *Melbourne*.—Portraits of Aborigines; Skins of Native Animals; Furs (Cohn & Co. and G. Moss); Photographic Views of Colony; Tweeds and Shawls; Chemical and Pharmaceutical Preparations; Plough by Tynan

Ballarat; Ethnological Charts; Specimens of Victorian Woods; Sections of Trees; Ferns; Feathers; Casts and Photographs of Aboriginal Natives; Newspapers and Wood Engravings of Victoria; Facsimiles of Nuggets — "Welcome" and "Lady Barkly;" Wattle Bark; Blackwood Sewing Machines; Cabinets; Facsimiles of Victorian Fruits; Book of Engravings; Victorian Sovereigns and Half Sovereigns; Land Act of Victoria, 1869; Census of Victoria; Report of Board of Education; English and Colonial Specifications relating to preservation of Food; Transactions of Royal Society of Victoria; Patents; Proceedings of Acclimatisation Society.

JOHNSTON, J. S., *Sunbury*.—Wines.

JUNG, OTTO, *Chinaman's Creek, Castlemaine*.—Wines.

KOROIT BOROUGH COUNCIL, *Koroit*. Photographs, and Statistics.

LANDS DEPARTMENT, *Melbourne*.—Photographs, Geddetic Plans, and Maps.

LEVI, NATHANIEL, 32, *Collins Street West, Melbourne*.—Victorian Beetroot Sugar.

LEWIS & WHITTY, *Charles Street, Fitzroy, Melbourne*.—Washing Blue.

LITTLE, JOHN, *Mount Ararat, Victoria*.—Preserved Meats.

LUCAS, R., *Colac, Victoria*.—Grass Tree Gum in crude state.

MACLEAN, ANGUS, *Little Bourke Street, Melbourne*.—Ornamental Zinc Work.

MAJOR, JAMES, 82, *Collins Street West, Melbourne*.—Iron Ore, Iron, and Bell, cast from Iron made by the Ilfracombe Iron Company.

MAPLESTONE, C., *Ivanhoe, Heidelberg*.—Wines.

MATTHEWS, W., *Coghill's Creek, Victoria*.—Oats, Wheats, and Cheese.

MELBOURNE MEAT PRESERVING COMPANY, 56, *Queen Street, Melbourne*.—Preserved Meats, Soups, &c.

MICHAELIS, HALLENSTEIN & COMPANY, 30, *Lonsdale Street East, Melbourne*.—Leather.

MINING DEPARTMENT, *Melbourne*.—Facsimiles of Nuggets; Mineralogical and Geological Specimens; Fossils, Rocks, Auriferous Quartz; Coal, Iron, Lead, Antimony, &c.

MOSER, H., *Daylesford*.—Photographic Views.

MOSS, GEORGE, *Bourke Street, Melbourne*.—Skins of Australian Animals.

MUELLER, BARON VON, *Botanic Gardens, Melbourne*.—Preparations of Vegetable Products.

NEILL, MRS. BLADEN, *Melbourne*.—Silk Cocoons.

NEWTOWN & CHILWELL BOROUGH COUNCIL, *Geelong*.—Photographic Views of the Borough of Newtown and Chilwell.

NORTH JOHNSON'S REEF GILL COMPANY.—Quartz.

NORTON, JOHN, *Geelong*.—Photographic Views of Geelong and Neighbourhood.

POHL, C., *Emu Creek, Strathfieldsaye*.—Wines.

PUBLIC LIBRARY, *Melbourne*.—Catalogue of Library and Museum; Photographs of the Dresden Gallery, bound; photographed by John Noone.

PUBLIC WORKS, INSPECTOR-GENERAL OF, *Melbourne*.—Photographic Views of Post Office and Royal Mint, framed.

RAMSDEN, S., *Carlton*.—Flour.

ROBERTSON, A. S., *Geelong*.—Merino Wool.

ROFF & COMPANY, 87, *Flinders Lane East, Melbourne*.—Chemical Preparations.

ROSALES, H., *Walhalla, Gipps Land*.—Quartz, &c., with Statistics.

ROSE OF DENMARK GOLD MINING COMPANY, *Gaffney's Creek*.—Diorite, Auriferous Quartz, Slate, Bitterspar, &c.

RUSSELL, PHILIP, *Corrigham*.—Wool.

RUSSELL, T., & COMPANY, *Barunah Plains, Hesse*.—Wools.

RUSSELL, T., *Wurrook, Rokewood*.—Wool.

SANDHURST CITY COUNCIL, *Sandhurst, Victoria*.—Photographic Views of Sandhurst.

SCHMIDT, F., *Berwick*.—Wine.

SCHROEDER, E., *Chinaman's Creek, Castlemaine*.—Wines.

SMITH & SON, *Lonsdale Street East, Melbourne*.—Charcoal Biscuits.

SMITH, G. S., *Wahgunyah*.—Wine.

STEWART, M., & COMPANY, *Richmond, Victoria*.—Mazina and Starch.

STRATHFIELDSAYE SHIRE COUNCIL.—Photographic Views of the Shire.

TROUETTE & BLANCHPIED, *Great Western*.—Wine.

TRUSTEES OF NATIONAL MUSEUM, *Melbourne*.—Specimens of Australian Animals.

TYNAN, JOHN, *Ballarat*.—Double Wheeled Plough.

UNITED OVENS GOLD AND TIN MINING COMPANY.—Lead, Antimony, and Iron Ores.

VETTLER, JOHN, *Echuca*.—Wines.

VICTORIA MEAT PRESERVING COMPANY, 118, *Market Street, Melbourne*.—Preserved Meats and Soups.

VICTORIA WOOLLEN COMPANY, *Geelong*.—Woollen Tweeds and Shawls.

WATSON & PATERSON, *Bourke Street West, Melbourne*.—Bacon and Hams.

WEBER, JACOB, *Leigh Road*.—Wine.

WESTERN MEAT PRESERVING COMPANY, *Colac*.—Preserved Meats, Game, and Poultry.

WITTBER, AUGUST, 43, *Gipps Street, East Melbourne*.—German "Australian Gazette."

ZORN, EDWARD, *Oakleigh, near Melbourne*.—Tomato Sauce.

NEW ZEALAND.

The Colony of New Zealand consists of three principal islands, called respectively the North, the Middle, and the South (or Stewart's) Island, and several small islets (mostly uninhabited); the chief of which are the Chatham Isles and the Auckland Isles. The three principal islands extend in length 1,100 miles, but their breadth is extremely variable, ranging from 46 miles to 250 miles; the average being about 140 miles.

STATISTICS OF NEW ZEALAND.—The census of 1871 showed that the population of New Zealand (exclusive of the Aborigines), amounted in the February of that year to 256,393; having increased from 99,021 in 1861. The revenue, the trade, and the other elements of material prosperity have increased during the same period in nearly equal proportions. Thus the revenue was in 1861, 691,464*l.*, and in 1871, 1,342,116*l.* The population of the chief towns, (including their suburbs) was in 1871, in round numbers, as follows:—Wellington, (the seat of the General Government), 8,000; Dunedin, 21,000; Auckland, 20,000; Christchurch, 12,000; Nelson, 6,000.

REVENUE, (ORDINARY AND TERRITORIAL).—1860, 464,739*l.*; 1870, 1,384,639*l.*; 1871, 1,342,116*l.* Public Debt of New Zealand in 1872 was, 9,983,341*l.*

IMPORTS AND EXPORTS.—1860, Imports, 1,548,333*l.*; Exports, 588,953*l.* 1870, Imports, 4,639,015*l.*; Exports, 4,822,756*l.* 1871, Imports, 4,078,192*l.*; Exports, 5,282,084*l.*

LAND AND CROPS. (*Land and cultivations of aboriginal natives not included*).—The extent of holdings in the Colony in February, 1871, was returned as 22,774,498 acres, against 18,762,057 acres in December, 1867, viz.: freehold, 5,637,838 acres, against 5,068,440 acres in 1867, and leasehold, 17,126,660 acres in 1871, (against 13,693,617 acres in 1867. The total number of acres fenced was 6,778,773, against 3,455,588 in 1867. The quantity of land broken up but not under crop, was, in 1871, 116,204 acres, against 94,311 acres in 1867. The total quantity of land under crop, as shown by the Census of 1871, (including sown grasses) was, 1,042,042 acres, against 676,909 acres in 1867. In this total were 77,082 acres of wheat, against 47,786 acres in 1867; 123,135 acres of oats, against 101,563 acres in 1867; 23,071 acres of barley, against 13,136 acres in 1867, 12,901 acres of potatoes, against 14,372 acres in 1867; 776,402 acres of sown grasses, against 472,893 acres in 1867. In other crops there were 29,450 acres, against 27,159 acres in 1867.

ANNUAL PRODUCTION OF BUTTER AND CHEESE.—The annual production of butter in the Colony, according to the Returns of February, 1871, was 5,199,072 lbs., against 3,834,252 lbs., in 1867; and of cheese, 2,547,507 lbs., against 1,300,082 lbs. in 1867.

LIVE STOCK.—The aggregate number of live stock of all kinds (excepting poultry,) in 1871, was 10,382,540, against 8,924,520 in 1867. Taking the principal kinds of live stock separately, the numbers were—horses, 81,078 in 1871, against 65,615 in 1867; cattle, 436,592 in 1871, against 312,835 in 1867; sheep, 9,700,629 in 1871, against 8,418,579 in 1867; and pigs, 151,460 in 1871, against 115,104 in 1867.

IMMIGRATION AND EMIGRATION.—The immigration (over seas) to New Zealand in 1870, amounted to 9,124 persons, of whom 6,178 were males, and 2,946 were females. Of the males 5,508 were adults, and 670 children; of the females 2,400 were adults, and 546 children. The following figures show the immigration in 1870, classified according to the countries from which the immigrants arrived:—United Kingdom, 2,266 males, 1,749 females; total, 4,015. Australian Colonies, 3,517 males, 1,126 females; total, 4,643. Other British Ports, 9 males, 1 female; total 10. Foreign States, 386 males, 70 females; total, 456.

TRADE AND INTERCHANGE.—SHIPPING.—The numbers and tonnage of vessels entered inwards and cleared outwards at the several ports of New Zealand during the year 1870 were as follows:—The total inwards was 756 vessels, of 273,151 tonnage. The total outwards was 766 vessels, of 265,407 tonnage. Of the total of 756 vessels inwards, 76, of 56,874 tonnage, arrived from the United Kingdom; 556, of 184,904 tonnage, from the Australian Colonies and other British possessions; and 124, of 31,373 tonnage, from foreign countries (including the southern whale fisheries). Of the total of 766 vessels outwards, 58, of 43,532 tonnage, cleared for the United Kingdom; 548, of 182,876 tonnage, for the Australian Colonies and other British possessions; and 160, of 38,999 tonnage, for foreign countries (including the southern whale fisheries). Of the 756 vessels inwards, 145, of 85,643 tonnage, were British; 553, of 167,869 tonnage, colonial; 45, of 15,361 tonnage, American; 4, of 569 tonnage, German; 3, of 427 tonnage, French; 2, of 1,025 tonnage, Norwegian; 1, of 1,000 tonnage, Russian; 1, of 536 tonnage, Swedish; 1, of 385 tonnage, Hawaiian; and 1, of 336 tonnage, Dutch. Of the 766 vessels outwards, 133, of 78,197 tonnage were British; 574, of 166,812 tonnage, colonial; 44, of 15,115 tonnage, American; 5, of 2,228 tonnage, Norwegian; 3, of 568 tonnage, German; 3, of 427 tonnage, French; 2, of 673 tonnage, Dutch; 1, of 1,000 tonnage, Russian; and 1, of 387 tonnage, Hawaiian.

IMPORTS AND EXPORTS.—The total value of the imports of the colony in 1870 was 4,639,015*l.* against 4,976,126 in 1869, being a decrease of 337,111*l.* or 6·77 per cent. A comparison of the total value of imports in 1869 and 1870, according to the countries whence they were received, gives the following results:—

United Kingdom	..	£2,458,579	..	£2,685,736	..	increase	£227,157
British Colonies	..	2,280,135	..	1,759,872	..	decrease	520,263
Foreign States	..	237,412	..	193,407	..	„	44,005
Totals	..	4,976,126	..	4,639,015	..	decrease	337,111

The total value of the exports from New Zealand in 1870 was 4,822,756*l.*, against 4,224,860*l.* in 1869, being an increase in 1870 of 597,896*l.*, or 14·15 per cent. Excluding the value of imported goods re-exported from the colony, the total value of exports of New Zealand produce and manufactures in 1870 amounted to 4,544,682*l.*, against 4,090,134*l.* in 1869, being an increase of 454,548*l.*, or 11·11 per cent. The two very important exports—gold and wool—demand more particular notice here. The total value of the gold exported from New Zealand in 1870 was 2,157,585*l.*, produced by the several gold-fields to the following amounts, viz., Auckland, 319,146*l.*; Marlborough, 7,408*l.*; Wellington, 120*l.*; Nelson, 591,510*l.*; County of Westland, 578,707*l.*; Otago, including Southland, 660,694*l.* The total value of gold exported in 1869 was 2,362,995*l.*

There appears therefore a net decrease in 1870, amounting to 205,410*l.* The falling off in amount occurred in Auckland, Nelson and Westland, while in Marlborough and Otago there was an increase. The total quantity of gold exported from New Zealand from the 1st April, 1857, to the 31st December, 1870, was 5,542,849 ounces; the total value, 21,565,479*l.* The total quantity of wool exported in 1870 was 37,039,763 lbs., against 27,765,636 lbs. in 1869, being an increase of 9,274,127 lbs. The total value stated for 1870 was 1,703,944*l.*, against 1,371,230*l.* in 1869, showing an increase of 332,714*l.*, or 24.26 per cent.

I.—PRECIOUS METALS, MINERALS, AND SOILS.

1 Samples of Alluvial Gold from the following districts of Otago:—

- (1.) Opunake Diggings, Southland: Fine Gold, with Platinum and Black Sand.
- (2.) Moeraki: Fine Gold, with Garnet Sand.
- (3.) Tuapeka: Blue Spur Sluicing Gold from older drifts.
- (4.) Dunstan: Gold from River Beaches.
- (5.) Shotover: Black Gold from Terraces.
- (6.) Wakatipu: Rough Scale Gold from the Lake Terraces.

2 Samples of Alluvial Gold from Westland:—

- (7.) Okarita: Fine Beach Gold.
- (8.) Ross: Deep-Sinking Gold.
- (9.) Hobo: Scale Gold from the older drifts.
- (10.) Greenstone: Coarse Gold from the ground sluicing.

3 Samples of Alluvial Gold from Nelson:—

- (11.) Lyall: Nuggety Gold.
- (12.) Wakamarina: Shotty Gold.

4 Reef Specimens from the following Gold Mines, viz.:—

Otago: Shotover, Cromwell, and Waipouri.
Nelson: Reefton, Lyall, and Collingwood.
Auckland: Thames and Coromandel.

5 Gold and Silver as prepared for export, in 10 oz. ingots:—

- (1.) Melted Gold from South Island, alloyed with Copper Assay.
- (2.) Melted Gold from the Thames, alloyed with Silver Assay.
- (3.) Refined Gold, prepared by the Chlorine process.
- (4.) Melted Silver, prepared from the native Alloy by the Chlorine process.
- (5.) Cake of Silver Chloride formed by same process.
- (6.) Gold Specimens from Perseverance Mine.

6 Gilt Models of the largest-sized Ingots exported from the country.

6A Blocks of Coal from different mines.

7 Blocks of Hæmatite.

8 Blocks of Steatite.

9 Box of Graphite.

10 Box of Copper Ore.

11 Box of Galæna and Blende.

12 Box of Auriferous Quartz.

13 Black Sand (*Titaniferous*).

14 Articles manufactured therefrom.

15 Bottles of Crude Petroleum from Taranaki.

16 A Collection of Rocks, Minerals, and Fossils, illustrating the Geology of Otago.

&c. &c. &c.

II.—TIMBERS OF THE COUNTRY.

1 A large Collection of Native Woods.

2 Whole Trunk Sections of Kauri (*Dammara Australis*).

3 Ship Timbers and Bent Pieces (dressed and in the round).

4 Specimens of large Manuka Tree (*Leptospermum scoparium*).

5 Specimen of "Yellow Pine."

6 Slab of the same.

7 Piece of Old Tree.

8 Sashes, Doors, &c., of local manufacture.

9 Several Cabinets made of New Zealand Woods, and showing very high workmanship.

III.—RAW PRODUCE, including Kauri Gum, Whale Oil, &c.

1 WOOLS (in fleeces, with full particulars attached) in illustration of one of the principal industries of the Colony.

2 PHORMIUM FIBRE, in bulk and in sample.

3 AN EXTENSIVE SERIES OF SPECIMENS to illustrate the qualities and capabilities of the Phormium Fibre.

IV.—MANUFACTURES:—

Woollen Goods, Tweeds, &c.; Mats and Cordage; Malt, Flour, &c.; Preserved Meats, Fish, and Fruits; Salt Beef and Pork; Soap and Tallow; Leather, Glue, &c.; Tobacco and Cigars.

V.—MISCELLANEOUS:—

Botanical Collections; Maps and Photographs; Skeletons of the Dinornis; Collections of Birds, &c.; Specimens of Native Manufactures.

CEYLON

Is a magnificent Island off the southern extremity of Hindostan, containing about 15,808,000 acres. Part of it was taken possession of by England in 1795-6, but it was not till 1815 that the whole Island came under British Rule. Not a tenth part of the land is as yet cultivated. The population numbers 2,198,884. The revenue for 1871 was £1,121,679; the expenditure, £1,064,184. The value of goods imported in that year was, £4,797,952; of exports, £3,634,853. The principal articles of export are Coffee, Cinnamon, Tobacco, Plumbago, Cocoonut Oil, and Fibre. The Pearl Fisheries, which for some years were a source of revenue, have for the present failed. A great deal of jewellery is made in parts of the Island and worn by the natives. Specimens are exhibited.

A brief explanation of the use of the Peasant Jewellery sent to the Vienna Exhibition may be interesting.

JEWELLERY WORN BY MEN.

1. A pair of Earrings, "Kualai," worn by all classes of the Tamils, though not by all individuals; the lobe of both ears are perforated, and the jewel is hung on the hole, so that the ball of the ring is facing. They are worn on all occasions, beginning from the time a young man passes his minority.

2. "Sevappoddu," as above.

3. Three pairs of Earrings, called "Naddokkadukkan." These are worn in the same manner as above by the Tamils, mostly by those of country parts; hence they are called "Naddokkadukkan," which means earrings of the interior.

4. Two pairs of Finger-rings. They are called, "Venmaddum" and "Kootheraykulampu." "Venmaddum" means plain work. "Kootheraykulampu" means horse-hoof. "Venmaddum" is worn in pairs, on the ring-finger, and the other on the little finger of the right hand.

5. Silver Waist-chain worn round the waist, inside the dress, to sustain a piece of cloth to cover the nakedness in bathing, &c.

JEWELLERY WORN BY WOMEN.

1. Ear ornament, "Vaaly." The Tamil women, except the Brahmin class, and people from India and their descendants, wear this on ordinary occasions; the upper parts of the ears are perforated in such a way as to receive the joints of the two pieces of "Vaaly," and keep the ornament in a vertical position.
2. Five pairs of Earrings.—See explanation given for 1 and 3.
3. Ear ornament, "Kathuppu," worn in the ear, in the same hole in which earrings are worn, but this ornament stands over the earrings.
4. Nose ornament, "Mookuttie," in a bore on the left side end of the nose.
5. A Necklace, "Karisamany." Several kinds of necklaces are worn by women, above the collar bone; but this is worn around the upper part of the neck.
6. A Necklace, "Thaddumany," worn below "Karisamany."
8. A Necklace, "Maniaddial," worn as an addition to "Karisamany," and sometimes instead of "Karisamany," but its place is between the "Karisamany" and "Thaddumany."
9. Wedding Necklace "Thaly" and "Charadoo," worn by women from the day of marriage during the life of their husbands. The meaning of the "Thaly" differs in object from that of wedding-ring of other nations; the Tamil women wear it as a sacred mark to distinguish themselves from unmarried women and widows. "Thaly" is the round solid ornament in the middle of the gold string "Charadoo," which is worn in front.
10. Silver Arm-ring, "Kadasam;" bangles worn on the arm near the wrist.
12. "Valayal," worn as above—four on each arm.
13. Finger-rings, worn on the index finger, ring-finger, and little finger of the left hand—from two to four rings on each finger.
14. "Kaal Motheram," or toe-rings, worn one on each of the four toes of both feet except the big toe.
15. Five-stringed beads, worn round the neck to hang over the breast, the shortest string near about the collar bone.
16. Two-stringed beads "Larye," worn beneath the five strings.
17. Hair-pins.

The colour of these jewels is not the natural colour of gold. The Tamils, being dissatisfied with its natural colour, give it an artificial one. The ingredients and the process employed for fixing the colour are the following:—After the jewel is made and completed it is heated, and then put into a solution of salt. The quantity of water used for the solution is just sufficient to cover the jewel. The gold then turns white, and is cleaned by rubbing it with soft white sand. The jewel is then put into a solution, composed of salt and alum in equal quantities, and in alum and saltpetre twice as much, and is treated till the whole solution is evaporated and slightly heated, when it assumes a yellow colour. It is then dipped in water, and cleaned with soft white sand, and again heated in the last-named solution; cleaned with sand and polished.

This colouring is further carried on as follows:—A solution is made of acid of Gorga fruit or Tamarind, and a very slight quantity of brimstone, and what remains of the last solution, or rather its dregs, after evaporation, and heated. When the solution begins to boil, the jewel is put into it, and moved about until the desired colour is obtained.

The silver jewels also admit of colouring. The process is nearly the same as in the case of the gold, but the use of brimstone is avoided, and they are principally dipped in a solution of lime.

In ancient times there were distinctions as to what jewels certain classes of people should wear, and what classes should not, and also as to town fashion and country fashion; but they are now worn indiscriminately by all classes of the people, and by the people of all districts.

MAURITIUS.

An island in the Indian Ocean, 400 miles east of Madagascar, captured by the British in 1810. The area of the island is 676 miles. The resident population of Mauritius, according to the census taken on the 10th of April, 1871, was composed of 51,771 males of the general population and 48,013 females, and 141,804 males of the Indian population and 74,454 females—total, 316,042. Between the 10th April and 31st December, the excess of births over deaths in the former class amounted to 479 males, and 579 females. In the latter there was an excess of 136 deaths in the males, and an excess of 823 births in the females. The arrivals, however, of Indian immigrants exceeded the departures by 433 males and 364 females, thus raising the total resident population to 318,584 classified as under:—General population, males, 52,250; females, 48,592. Indian population, males, 142,101; females, 75,641. It has been found impossible to follow the movements of the general population, or even of those of free Indian passengers, since the repeal of Ordinance No. 24 of 1850. The total estimated population on the 31st of December, male and female, may be taken as correct; but as the births and deaths of some Creole Indians, number at present uncertain, have been registered as belonging to the general population, the latter is probably a little over-estimated. Revenue (1871), £616,952; expenditure, £600,961. The principal article of produce is Sugar, and the cultivation of the cane is carried on in plantations, which employ 60,000 or 70,000 immigrants, introduced from the Presidencies of India. On the 10th April, 1871, the Indian population on the sugar estates was as follows, according to the census taken on that day:—

				Males.	Females.	Total.
Immigrants—From Calcutta	..	..	..	36,815	..	49,651
„ Madras	..	..	..	18,086	..	27,176
„ Bombay	..	..	..	5,035	..	7,178
Indo-Mauritians	..	..	..	16,192	..	31,055
Free Indian Passengers	..	..	..	40	..	52
Total	..	..	..	76,168	..	115,112

The value of imports and exports during 1871, deducting specie, has been respectively £1,807,382 and £3,053,054. There is little doubt that the value of exports given by the Blue Book last year was under-estimated. A comparison with those figures, therefore, will not be of much use. The exports in 1871 may, however, be roundly stated as having exceeded those of 1870 in value by £450,000, and this excess is accounted for by the larger quantity of sugar shipped in the former year. The quantities and value of the sugar exported during the last five years are given below:—

		Tons.		Value.			Average price per cwt.
1867	..	100,000	..	£2,156,950	..	..	18s. 4d.
1868	..	99,000	..	2,143,166	..	..	21 10
1869	..	107,000	..	2,599,815	..	..	22 10
1870	..	102,000	..	2,549,881	..	..	24 11
1871	..	123,000	..	2,819,944	..	..	22 7

The goods exhibited are as follows:—

GROUP II.

CALDWELL, J., & MRS. DE CHAZAL MOON.—Lithographs of Canes, introduced into Mauritius by Mr. Caldwell, coloured by Mrs. Moon; Report on New Caledonia; Classification of Sugar Canes; Plates of Paintings made in Queensland, New South Wales, and Mauritius; Sugar Canes painted from nature in Queensland, in New South Wales, and Mauritius.

HORNE, J., *Sub-Director, Royal Botanical Gardens*.—Collection of Fibres sent from the Royal Botanical Gardens, Mauritius.

HORNE, J., *Sub-Director, Royal Botanical Gardens*.—63 Sections of Wood, of which 43, from No. 1 to No. 43, are from indigenous trees.

GROUP IV.

WIÉHE, JAMES.—Sugar, 14 Samples.

PITOT HONOURABLE H.—Sugars A B C, crystallised in the Vacuum Pan, different sizes of Crystals, filtered and manufactured without animal charcoal, and purged by turbines. The juice of the sugar-cane has been treated according to Dr. Icery's process. These three boxes, with the one marked F, are white "Vesou" sugars. Sugars D and E have been treated in the same manner as above, with larger Crystals, and have been made from the syrup or refuse from the "Vesou" sugars.

FLORE MAURICIENNE.—24 Bottles Preserved Fruits.

MOIZEAU, H.—Pickles.

STRONG, WIDOW J.—Pickles.

DUMAT, C.—Statistics of Sugar Production; Plan of first-class Sugar Mill.

A full and classified catalogue of the contributions from Mauritius has been printed by order of the Commissioners.

GROUP V.

BOURGUIGNON & COMPANY.—Rope made of Aloe Fibre (*Fourcroya Gigantea*), 6 sizes.

D'UNIENVILLE, —.—Raw Silk.

GROUP XII.

KYSHE, J.—Mauritius Almanack, 1872 and 1873.

MOCO, —.—Photographs; Types of the Chinese, Indian, and Mozambique inhabitants of Mauritius; Views of Landscapes, &c., in Mauritius.

GROUP XVII.

MELDRUM, C., *Government Observatory*.—Meteorological Charts.

JOURDAIN, HONOURABLE H.—Madagascar Products: Silk, Lambas, Grass Cloth Nattes, Fine Grass Cloth; Flax, Silk, Fibre, Cord; India Rubber, Cigar Cases; Spoons, Fork, Cups, and Specimen of Crystal.

WEST AFRICAN SETTLEMENTS.

SIERRA LEONE, GOLD COAST, GAMBIA, AND LAGOS.

The total population of these settlements, which are held by Great Britain principally with a view of putting an end to the Slave Trade, amounts to 513,370 persons.

The revenue of each separate Settlement from 1866 to 1871 was as follows:—

	1866.	1867.	1868.	1869.	1870.	1871.
	£	£	£	£	£	£
Sierra Leone.. .. .	62,263	64,871	59,272	69,617	67,135	80,486
Gold Coast	11,053	10,839	15,404	24,127	30,851	28,609
Gambia	19,079	22,415	22,088	15,518	18,969	17,490
Lagos	23,823	30,195	33,896	40,622	42,875	45,612
Total revenue of H.M. } West African Settlements }	116,218	128,320	130,660	149,884	159,830	172,197

The expenditure has generally been kept well within the revenue, as may be seen from the following figures:—

EXPENDITURE.

	1866.	1867.	1868.	1869.	1870.	1871.
	£	£	£	£	£	£
Sierra Leone.. .. .	60,532	70,984	55,694	70,465	68,033	76,130
Gold Coast	11,589	10,993	11,651	18,836	35,609	29,094
Gambia	17,681	18,664	17,082	20,236	21,937	16,662
Lagos	23,602	30,195	33,711	39,431	42,379	45,611
Totals	113,411	130,836	118,138	148,968	167,958	167,497

The following Table is a summary of the Trade returns in the four Blue Books for 1871. It shows, at a glance, the value of the commerce of the British Settlements :—

IMPORTS AND EXPORTS.

	Imports.	Exports.	Vessels Entered.	Vessels Cleared.	Tonnage Entered.	Tonnage Cleared.
	£	£				
Sierra Leone.. .. .	305,849	467,755	411	409	110,646	110,919
Gold Coast	250,671	295,207	343	315	131,553	119,494
Gambia	102,064	153,100	229	211	51,853	47,994
Lagos	391,653	589,802	278	275	125,776	125,168
Totals	1,050,237	1,505,864	1,271	1,210	419,828	403,575
Total commercial movement	2,556,101					

Thus, over twelve hundred vessels entered and cleared with cargoes exceeding two millions and a half in value.

These are the actual results of the year 1871. Since then two changes have been made, the effects of which are becoming already manifest, namely, the addition of the Dutch possessions in Guinea to the British Settlements, and the general revision of the tariffs, with a view of encouraging trade and shipping. Owing to these changes, it is probable that the exports from Her Majesty's West African Settlements will exceed £2,000,000 in 1873, and that the imports will reach £1,500,000, which would give a total commercial movement of £3,500,000; a larger sum than is exhibited by three not unimportant possessions put together, viz., the Federal Colony of the Leeward Islands, Tasmania, and Western Australia.

MANUFACTURES.

In Kambia some attempt is made at manufactures. From the cotton shrub that grows near every house the women pluck the raw material, from which they spin a coarse strong thread, which is woven in a native loom made of hard wood and leather prepared by themselves.

In the verandahs of the native houses the country cloth, from which are made tobes and other articles of wearing apparel, may be seen in process of manufacture, within a few feet of the plant still laden with the opening seeds, from which the material of the thread is plucked whenever it is required.

In the circular gate-houses leading to the courtyards of the better classes the blacksmiths may be seen making hinges, nails, and other common articles from native iron. The same sort of ore that is to be found at Sierra Leone is also to be found in the interior. But though it is neglected on the coast, it is smelted in rude furnaces at Kambia, and is the material from which the blacksmiths make all the iron articles required in that district.

The negroes of the interior may also be seen tanning leather, colouring it with native dyes, and making sandals, shoes, and saddles.

In every village they are busy manufacturing oil for their own consumption and for the European markets. The value of the oil so manufactured and exported last year to Europe exceeded £400,000. This manufacturing industry is altogether carried on by the negroes beyond our settlements.

At Elmina there are a considerable number of natives who have been trained by the Dutch as masons, carpenters, and blacksmiths. The native houses are strongly built of stone. At Cape Coast, eight miles off, the native houses are built of mud, and there is very little attempt at industry to be seen.

The German missionaries at Akropong give technical instruction in their schools. They are zealous, and live in a healthy district, but, as yet, they have made no impression beyond a very limited area.

At Lagos, the liberated Africans, who have emigrated from Brazil, are disposed to be industrious. In this respect they are a great contrast to the liberated Africans of Sierra Leone. They number about 6,000, and are rapidly increasing.

The chief articles of export are Gold Dust, Palm Oil, Cotton, Indigo, Shells, Ground Nuts, &c.

The articles exhibited by Mr. Pope Hennessy, C.M.G., lately Administrator-in-Chief, and Mr. Salmon and others, in behalf of the West African Settlements, are specimens of the Characteristic Trinkets of the Settlements, a Collection of Land Shells, Fancy Groups of Leather, Articles of Food, Specimens of Gold Dust, Monkey Skins. Ropes of Ashantee Make, Pipes and Smoking Reeds, Sandals, Wallets, and Native Manuscripts, Native Looms, &c.

JAMAICA.

Jamaica lies between $17^{\circ} 39'$ and $18^{\circ} 36'$ North latitude, and between $76^{\circ} 3'$ and $78^{\circ} 34'$ West longitude. It is calculated to contain about 6,400 square miles, or 4,080,000 acres. A range of mountains runs from East to West, occasionally rising to a considerable height, especially near the East-end, where the Blue Mountain Peak is found to be about 7,600 feet above the level of the sea. Mr. J. G. Sawkins, F.R.C.S., from observations taken in July, 1861, makes it 7,318 feet. On the North side the land rises into hills, often of remarkable beauty, and commonly separated from each other by spacious vales and romantic rivulets. On the South side, the face of the country is more irregular and craggy, and several ridges of less elevation are formed, running nearly parallel to the principal one. Extensive plains or savannahs extend from the bottom of the lowest range to the sea. Much of the soil, especially in the higher mountains, is unfit for cultivation, and probably not more than one half of the land which the island contains has yet been granted to individuals.

The principal rock of Jamaica is a white lime-stone of recent formation. Some of an older date (Graywacke, &c.) are to be met with in the mountains, chiefly in the County of Surrey, and in the parish of St. Mary, in Middlesex, as well as a great variety of those rocks (supposed of igneous origin), known to Geologists under the general name of Trap-rocks. The remains of a volcano are distinctly visible in the parish of St. George.

The climate is very salubrious, though occasionally sultry. Being an island, the thermometer is never observed to rise so high as on continents of similar latitude. In the plain of Liguanea, about three miles from Kingston, and 212 feet above the level of the sea, the mercury generally stands, during the warmest weather, at 89° to 90° , and during the cooler at about 85° ; it has been occasionally seen as high as 93° , and as low as 63° . The barometer, kept at the same situation, does not fluctuate during the year more than 2-10ths of an inch, say from 29.80, to 30.00, except on some particular occasions.

For several years now Jamaica has been strongly recommended by the Medical faculty of England, the United States, and Germany, as a climate well suited for invalids and others threatened with chest complaints or of delicate constitutions. Many invalids have therefore visited the country, and benefitted by the change; and many remain, preferring the climate to that of their own land. Establishments for the reception of invalids have been opened in the Port Royal and St. Andrew's mountains.

Among the mountains the temperature varies much, according to elevation and exposure. The meridian sun is everywhere felt oppressive by those who have not been long accustomed to its influence.

The island is divided, according to an Act of the Legislature passed 1758, into three counties—namely, Middlesex, Surrey, and Cornwall.

Formerly these were subdivided into twenty-two parishes, but by an Act of the Council passed in 1867 the number was reduced to fourteen, viz.:—In *Middlesex*, St. Catherine, Clarendon, Manchester, St. Mary, and St. Ann; *Surrey*, Kingston, St. Andrew, St. Thomas, and Portland; and *Cornwall*, St. Elizabeth, Westmoreland, Hanover, St. James, and Trelawny.

The Political Constitution, as represented by the Legislative Council and Assembly, was abolished by an Act of the Legislature in 1866, when the Island became a Crown Colony. The constitution at present provides for a Governor, Privy Council, and Legislative Council, the latter consisting of thirteen members, all appointed by the Crown, and of whom six, besides the Governor, are paid officials.

Saint Jago-de-la-Vega, or Spanish Town, used to be the Seat of Government, but it is now transferred to Kingston, which is the principal commercial city. It is here that the commerce of the island is centred, and from its favoured geographical position, as well as from its spacious natural harbour, one of the finest in the world, it offers a convenient port of call to the many lines of steamships now trading in these waters. Fresh Provisions, Vegetables, Water, Coals, and every other necessary for steam or sailing vessels, can be procured readily at very moderate rates. The other principal seaport towns are Port Morant, Morant Bay, Salt River, Milk River, Black River, and Sav-la-Mar on the south coast; and Lucea, Montego Bay, Falmouth, St. Ann's Bay, Port Maria, Annotto Bay, and Port Antonio on the north side.

The principal articles of export are Sugar, Rum, Coffee, Pimento, Ginger, Arrowroot, Logwood, Fustic, Ebony, Brazalitto, Lignum-vitæ, Satin Wood, Bitter Wood, and Coconuts. Cotton and Indigo were at one time considerable articles of export, but they have long since ceased to be cultivated.

The island abounds with every variety of Tropical Fruits, which are produced in the greatest profusion and without cultivation. Oranges, Bannanas, Pines, &c., find a ready and profitable market in the United States.

The population of the Island, according to the Census, taken 5th June, 1871, was 506,154, as follow:—

	Males.	Females.	Total.
White	6,909	6,192	13,101
Coloured	48,048	52,298	100,346
Black	191,498	201,209	392,707
Total	.. ..		506,154

The production of Tobacco in quantity and of a quality suitable for export, is a comparatively new industry in Jamaica. The plantations of Messrs. Soutar & Co., whose cigars are exhibited, are within 15 miles of Kingston, and were established four years ago upon soil similar by analysis, and in a climate corresponding with that of the famed Vuethaboy's district, Havanna. Their seed was also received from, and is of the description grown in the Vuethaboy's. Their manufactory is in Kingston, the capital of the Island, where they give constant employment to about 100 hands in the preparation of the tobacco and manufacture of cigars and cigarettes. The cost of freight from Jamaica to the principal ports in Great Britain is about 3s. per thousand, and to the Continent from 3s. to 1s. 6d.

BAHAMAS.

A group of twenty inhabited islands, and an immense number of islets and rocks, lying between $21^{\circ} 42'$ and $27^{\circ} 34'$ North latitude, and $72^{\circ} 40'$ and $79^{\circ} 5'$ West longitude, which were finally annexed to Great Britain in 1788. The capital of the colony is Nassau, in New Providence. The revenue is about £41,000 a year. The population, 39,162. The annual value of exports is about £150,000 per annum. The principal island, New Providence, was originally settled by the English in 1629, and held till 1641, when it was seized by the Spaniards. It was again colonized by England in 1667, but afterwards fell into the hands of the Spaniards and French. In 1781 the Bahama Islands were surrendered to the Spaniards, but, at the conclusion of the war, they were confirmed to Great Britain by the Peace of Versailles, 1783.

Exhibited.—Ornaments from the Seed of the Mimosa and Sea-side Oat; Shell Work and Fish Scale Ornaments; Back of Hawksbill Turtle and Conch Shells; Fibres of Plantain, Banana, Pineapple, &c., indigenous to the Bahamas; Fans, Rope, &c., made from the Palmetto Leaf; Sponge; Native Woods and Bark; Wings of the Flamingo.

Cigars exhibited by MESSRS. SOUTAR for submission to jury:—Imperiales, Regalia Britannica, Regalia del Rey, Napoleones Elegantes, Brevas, Londres, Galanes.

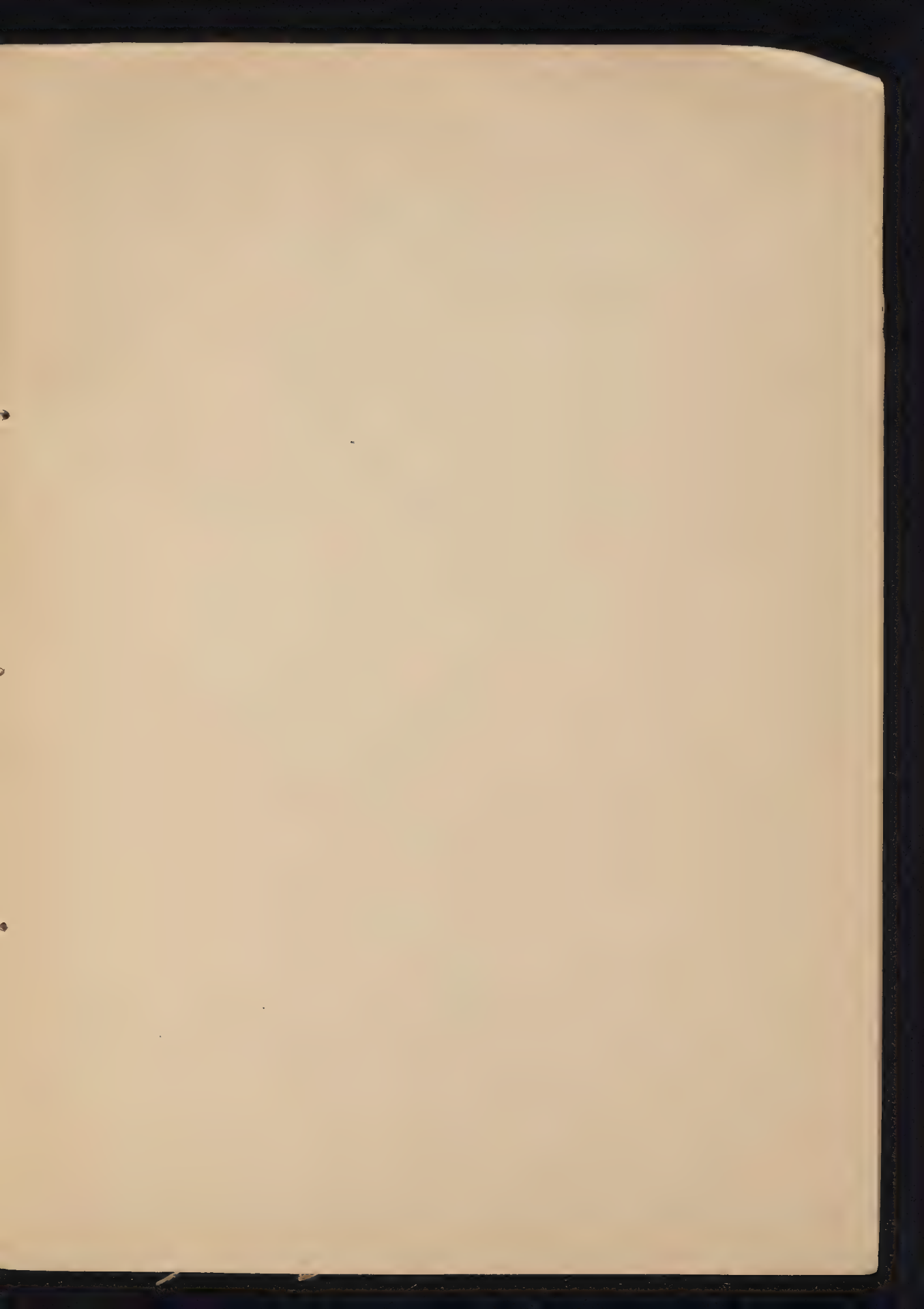
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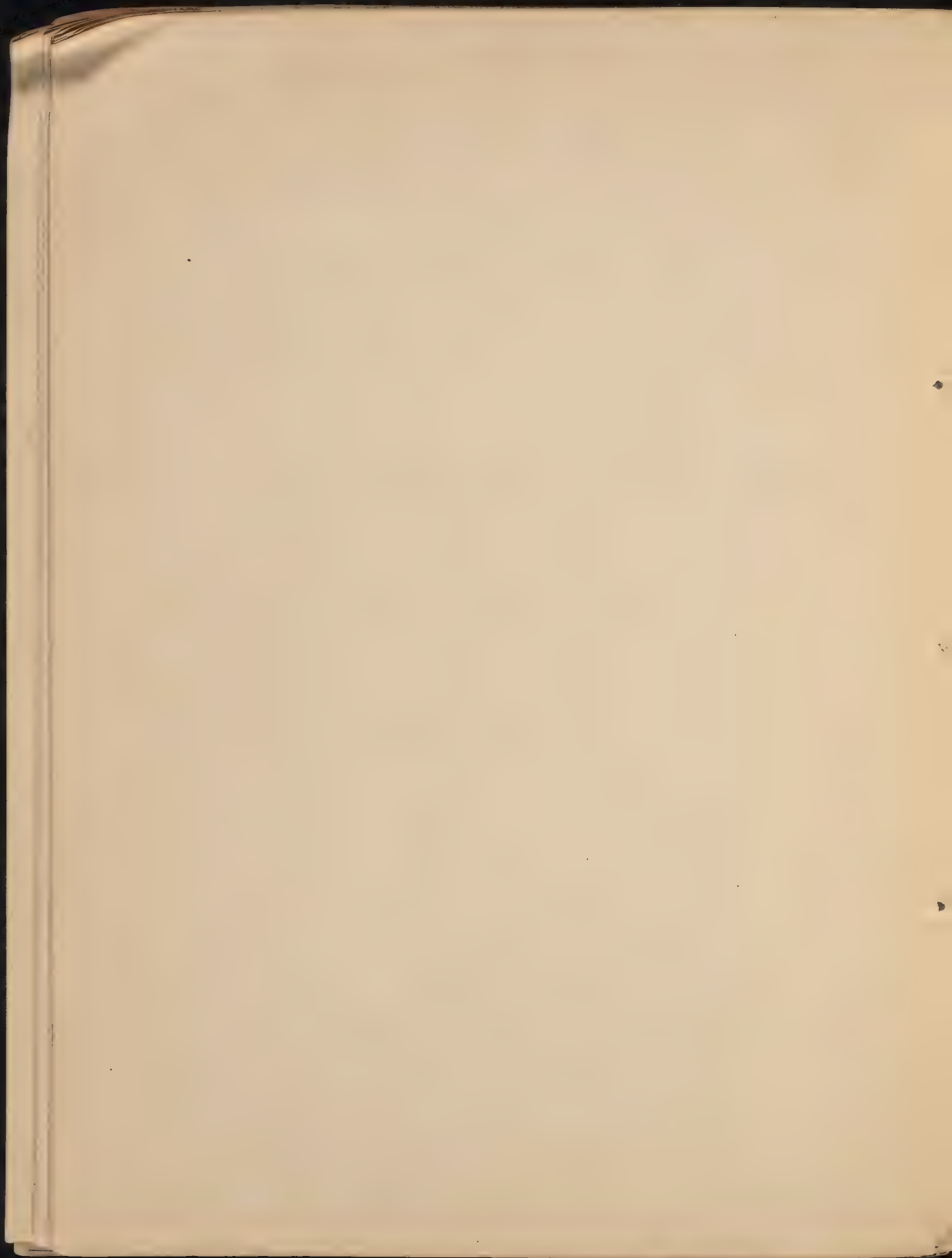
Lies to the east of Venezuela. Ceded to Great Britain in 1802. The area of the island is $1,754\frac{1}{2}$ square miles. Revenue about £264,000 a year, and value of exports, in 1871, £1,492,811. The population amounts to 109,638.

The principal articles of export are Sugar, Rum, Molasses, Cacao, Coffee, and Pitch. The number of Sugar Estates is 150, and the number of Coffee and Cacao Estates about 800.

77,452 acres of land are under cultivation. Cotton, Timber of many kinds, and the choicest West Indian Fruits are also produced.

Exhibited.—Collection of Native Woods, Pitch, Fibres, and Cacao. (These goods, although promised, have not yet been received.)





VIENNA UNIVERSAL EXHIBITION,
1873.

ILLUSTRATED APPENDIX,

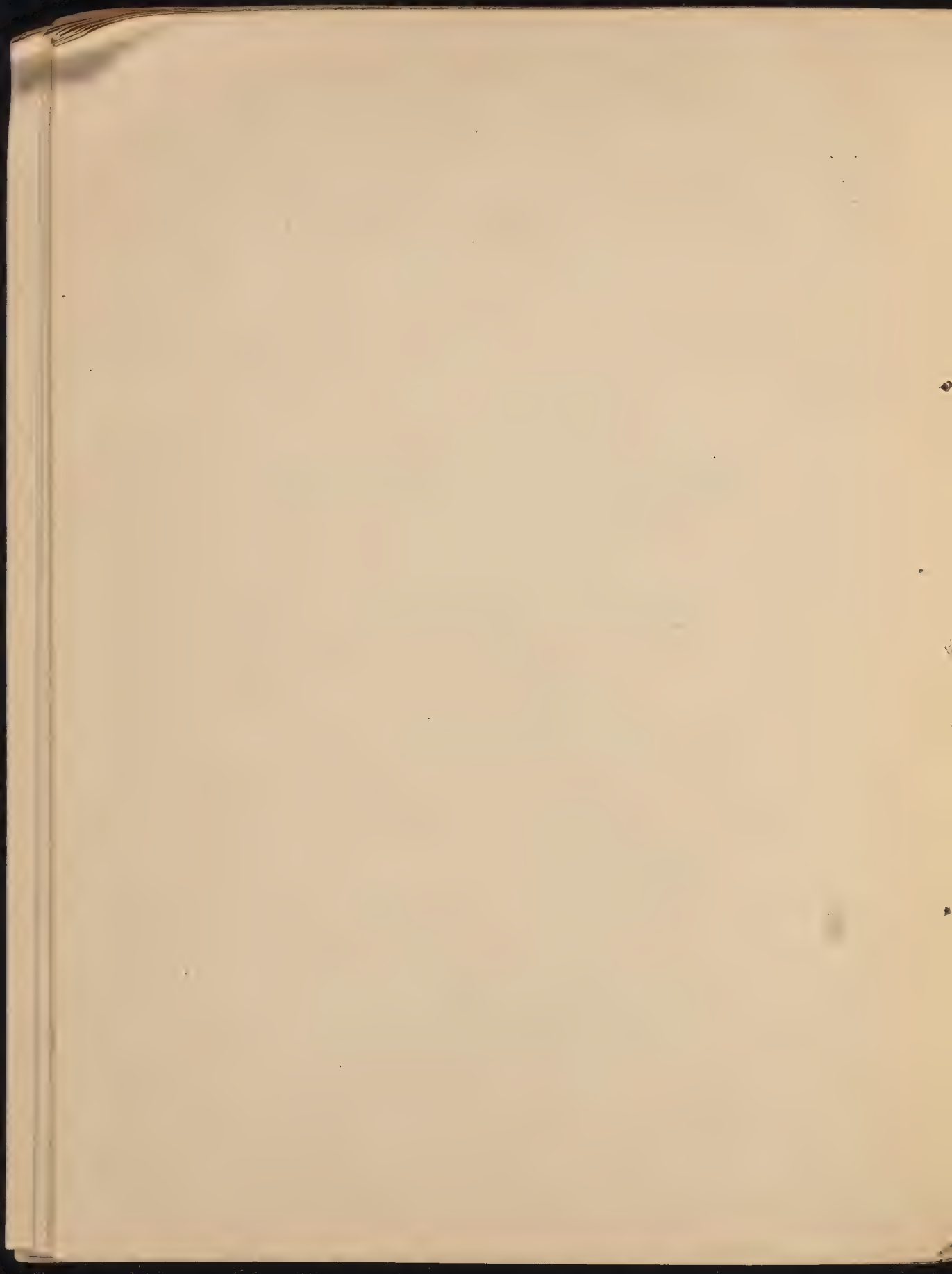
CONTAINING

DESCRIPTIVE NOTICES

AND

ADVERTISEMENTS.

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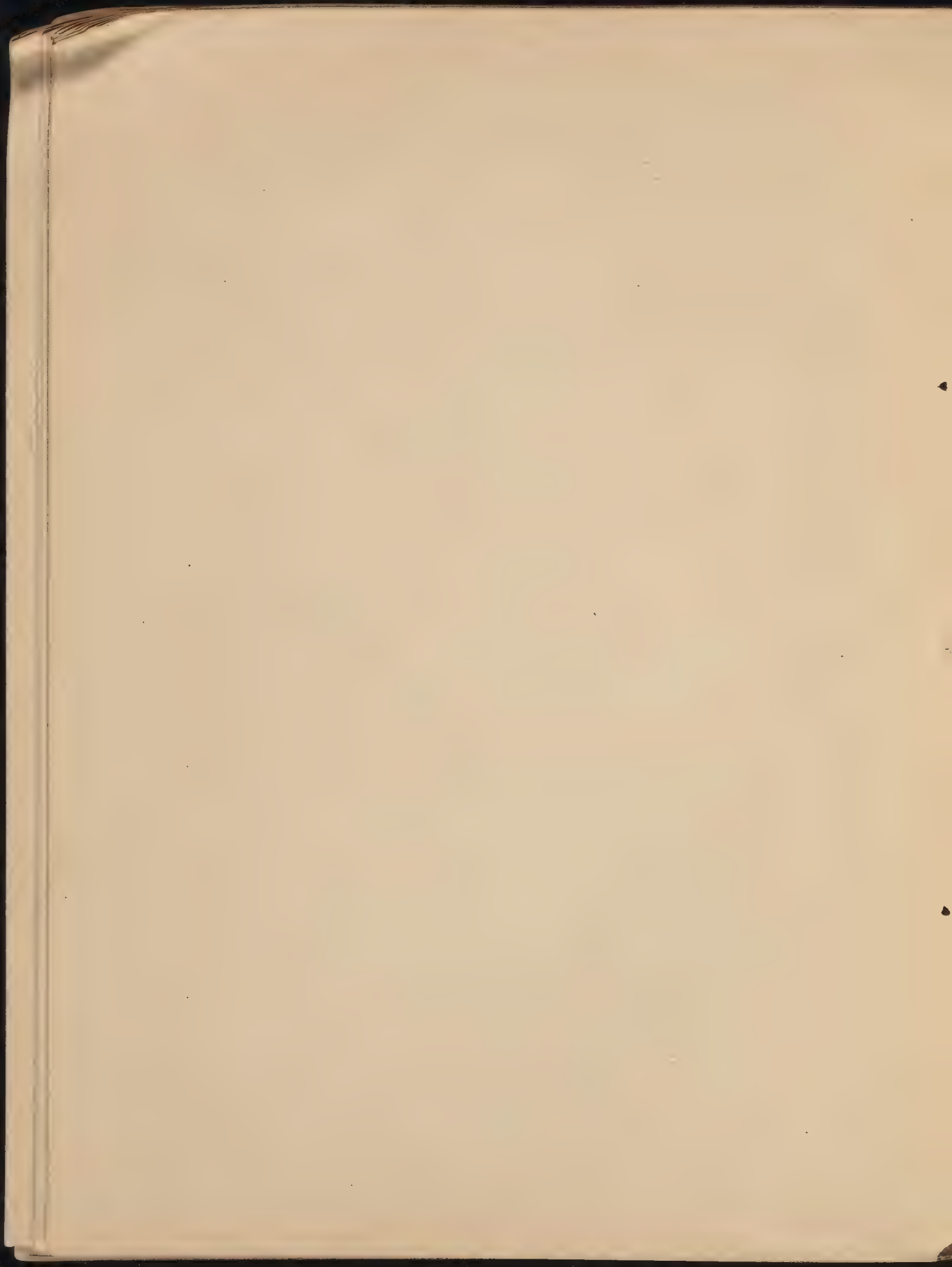
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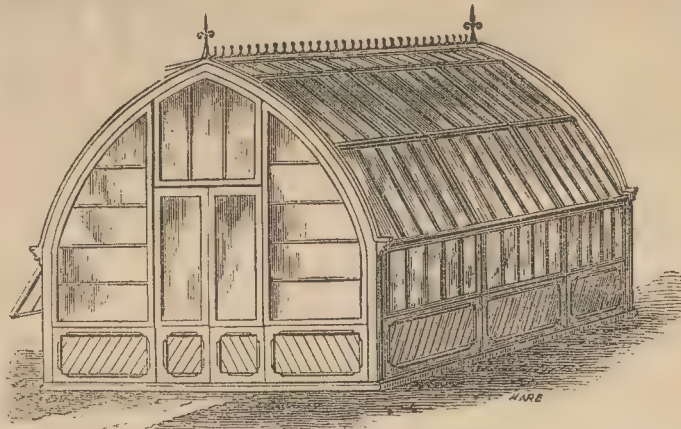
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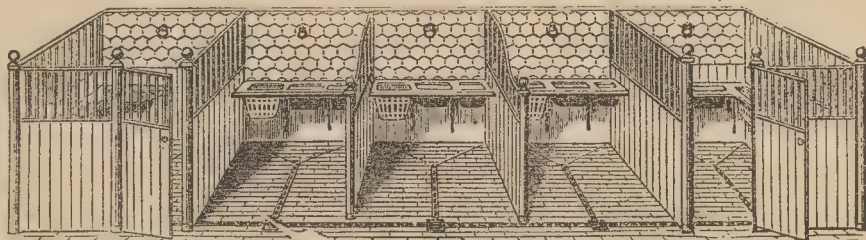
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REPORT BY DR. STEVENSON MACADAM.

ANALYTICAL LABORATORY,
SURGEONS' HALL,
EDINBURGH, 6th March, 1873.

I have made a careful Chemical Analysis of a sample of the "EDINBURGH LIQUID BLUE," manufactured by Mr. Thomas Ogilvie Smith, Edinburgh, and find it to be composed of the best materials, to be free from any injurious ingredient, and to be in all respects of the best quality, and superior to any other Liquid or Solid Blue I have examined.

(Signed) STEVENSON MACADAM, Ph.D.,
F.R.S.E., F.C.S.,
Lecturer on Chemistry.

LABORATOIRE ANALYTIQUE,
SURGEONS' HALL,
EDIMBOURG, 6 Mars, 1873.

J'ai analysé avec un très grand soin un échantillon du "BLEU LIQUIDE D'EDIMBOURG," fabriqué par M. Thomas Ogilvie Smith, d'Edimbourg, ce qui m'a donné lieu de constater qu'il contient les meilleures substances; qu'il est entièrement exempt d'ingrédients délétères et, enfin, qu'il est de première qualité et supérieur à tout autre Bleu Liquide ou Solide soumis à mon examen.

(Signé) STEVENSON MACADAM, Ph.D.
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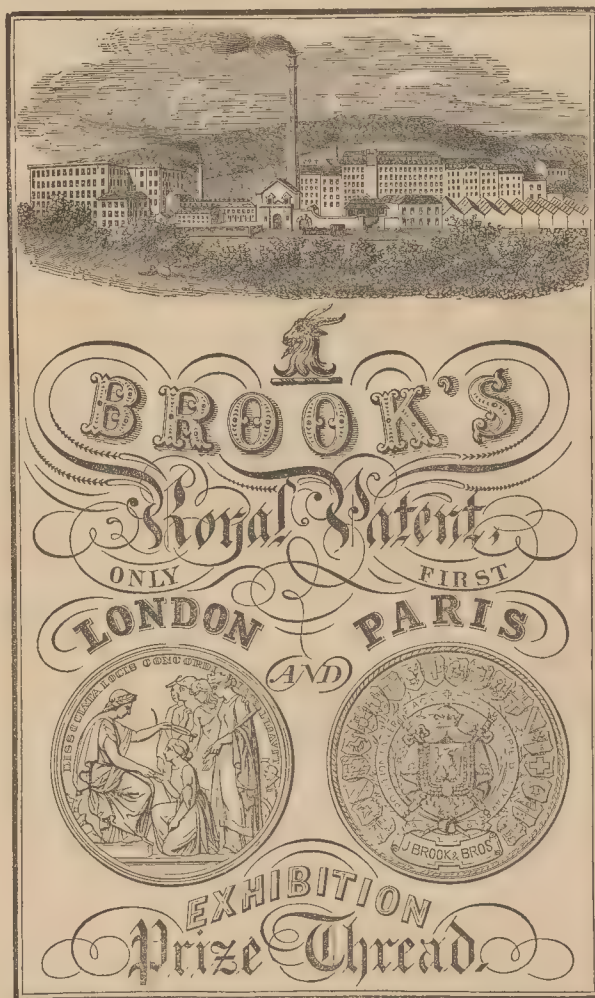
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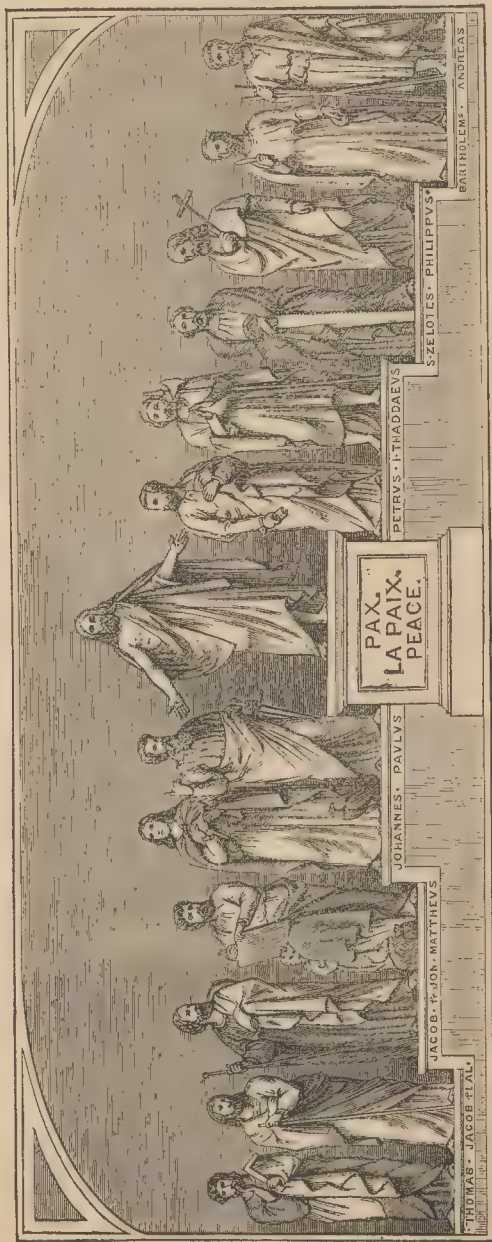
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BROWN & COMPANY,*The Wednesbury Tube Works, Wednesbury, Staffordshire.*Trade **W** Mark.

Manufacturers of Lap-welded Iron Boiler Tubes for Locomotive, Marine, and Stationary Engines, and other purposes; also of Tubes of Howell's Homogeneous Metal—of Steel, Charcoal, and Yorkshire Iron;

Boiler Tube Ferrules, &c.; Wrought Iron Welded Tubes for Gas, Steam, and Hydraulic purposes; Iron, Malleable Cast Iron, and Brass Fittings; and all kinds of Iron Tube in general use.

THE PATENT NUT & BOLT COMPANY, LIMITED.

Head Offices: London Works, near Birmingham, England.

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LONDON WORKS, BIRMINGHAM.
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CWM BRAN BLAST FURNACES, NEAR NEWPORT.
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Manufacturers of FISH BOLTS, FISH PLATES, SOLE PLATES, SPIKES, FANG BOLTS, and all other kinds of Railway Fastenings; also every description of BOLTS and NUTS, RIVETS, SET SCREWS, COACH SCREWS, WASHERS, TELEGRAPHIC IRONWORK, &c., &c., Hand and Machine made, from Steel, Iron, Copper, Brass, and Yellow Metal, Black, Bright, and Galvanised, as used by Engineers, Railway Companies, Telegraph Constructors, Contractors, Ship Builders, Carriage and Wagon Builders, and others.

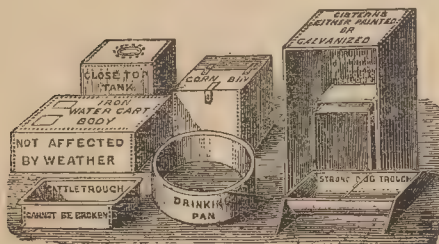
EDGE TOOLS.**A. W. WILLS (Late WALTER ALLCOCK),***PARK MILLS, BIRMINGHAM,*

Manufacturer of Superior Quality of

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BURNEY & CO., MILLWALL DOCKS, LONDON, E.*By Admiralty Order, all Royal Navy Tanks are to be made with BURNEY'S PATENT CORNERS.**All Goods at their Works made with the same.*

Sole Makers of Tanks to the British Royal Navy, and only holders of Prize Medals for Tanks, &c., the latest being Silver Medal of Royal Agricultural Society, and 1st Class Silver Medal, Naples.

ESTABLISHED 1710.



JOHN KENYON & CO.,
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STEEL CONVERTERS & REFINERS.

MANUFACTURERS OF ALL DESCRIPTIONS OF

Cast, Shear, Bar, Spring, and Sheet Steel,
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STEEL, SAWS, FILES, EDGE TOOLS;
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SUCCESSORS TO

SAM^L COCKER & SON,

(ESTABLISHED 1752,)

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THREE
1ST CLASS PRIZE MEDALS,
CLASSES 1, 21, 22.
Great Exhibition of Industry,
LONDON, 1851.



*Seule Maison Honorée de Trois
Médailles à l'Exposition Uni-
verselle de Londres en 1851.*

MEDAL OF HONOUR.
Society of Arts and Industry,
LONDON, 1856.



*Médaille d'Honneur de la Société
des Arts et Metiers à Londres
en 1856.*

1ST CLASS
PRIZE MEDAL, CLASS 15,
Universal
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*Médaille de 1^{re} Classe à l'Expo-
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MANUFACTURERS OF

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Best Cast Steel Wire, adapted
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Best Cast Steel Files, Saws, Edge
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Fil d'Acier Fondu de 1^{re}
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Makers of CHARCOAL and other BEST Qualities of SHEET IRON; Stamping Sheets; Circular Sheets; Black Plates; BUTTON IRON, 30 to 45 W. G.; Sheet Iron—Pickled, Cold Rolled, and Close Annealed; Canada Plates; Charcoal and Coke TIN and TERNE PLATES; and *Best Charcoal* Tin Plates for Deep Stamping.

All Sheet Iron branded BALDWIN-WILDEN, and marked with distinguishing quality, B, BB, BBB, BChar'l, EBChar'l.

Tin Plates for Deep Stamping, branded "EP X WB" Best Charcoal Tin.
WH

Tin Plates for general working, branded "WILDEN" CHARCOAL, "UNICORN" CHARCOAL TIN, "ARLEY  " TIN.

Coke Tin Plates branded "STOUR" COKE TIN.

Tin Plates specially prepared for Gas Meter purposes.

Our Sheet Iron is not only marked B., BB. &c., but the brand BALDWIN-WILDEN is on the *Bands of each Bundle*.

Agent in Vienna: THEODOR KLEIN, 56, MARIAHILFER HAUPTSTRASSE, where samples may be seen and all information obtained.


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Manufacturiers et fondeurs de FER au CHARBON de BOIS, et d'autres espèces de FER en FEUILLES; Estampages de Tôle; Lames et Tôles de Fer ronds et noirs; BOUTON, 30 jusqu'à 45 W. G.; Tôles Dérochées, Laminées et Décrouies; Plaques de Canada; FEUILLES de FER-BLANC au Charbon de Bois et au Coke, et *best charcoal* pour des Estampages.

Chaque espèce de Tôle est marquée BALDWIN-WILDEN, avec la qualité de B, BB, BBB, BChar'l, EBChar'l.

Feuilles de Fer-blanc pour des Estampages sont marquées:

"EP X WB" Best Charcoal Tin.
WH

Pour l'usage en général: "WILDEN" CHARCOAL, "UNICORN" CHARCOAL TIN, "ARLEY  " TIN;

Et au Coke: "STOUR" COKE TIN.

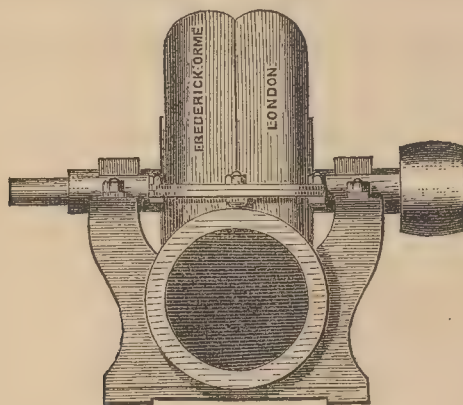
Feuilles de Fer-blanc préparées spécialement pour les besoins des Compteurs au Gaz.

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Improved Patent Noiseless Fans for Blowing, Exhausting, &c.

Hand Ventilating Fans and Fan Forges.

Steam Engines and Fans Combined.

Improved Steam Pumps and Portable Engines.

Bench-Drilling Machines.

Improved Patent Cut-Nail Machines.

Machines for Paris Points,

AND

Improved Screw & Rivet Machines.

Ventilateurs brevetés silencieux, aspirants et foulants.

Ventilateurs à main et soufflets de forge.

Machines à vapeur et ventilateurs combinés.

Pompes à vapeur perfectionnées et locomobiles.

Machines à percer.

Machine perfectionnée brevetée à couper les clous.

Machines pour pointes de Paris, et Machines perfectionnées pour écrous et rivets.

MANUFACTURER AND GENERAL MERCHANT,
70 & 71, BISHOPSGATE STREET, LONDON.

PRIZE MEDALS.

DUBLIN, 1865. . OPORTO, 1865. PARIS, 1867. HAVRE, 1868.

VICTORIOUS IN INTERNATIONAL SAFES CHALLENGE CONTEST,
PARIS EXHIBITION, 1867.

See judgment of the Tribunal of First Instance, "Herring v. Chatwood and Tagnard," given in favour of Chatwood, and condemning Herring in the costs. Also decree of Court of Appeal, pronounced at Paris, December 27, 1872, given in Chatwood's favour, confirming judgment of the Tribunal of First Instance, and condemning Herring in costs.

"BATTLE OF THE SAFES," POST FREE ON APPLICATION.

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SAFES,

FIRE AND BURGLAR PROOF,

Are specially constructed for the use of Bankers, Jewel Merchants, &c. They are made in various sizes, and with internal fittings to suit the special requirements of Purchasers.

This is the only Safe in the world which is sold subject to 36 hours' test with burglars' appliances before delivery.

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S. C. will be happy to advise Bankers on their Security arrangements, without any obligation to adopt his plans.



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Light and Heavy Edge Tools, Saws, Files, Steel, &c.,
 AND OF THE CELEBRATED
BRIGHT ELASTIC, CAST STEEL, HAY, MANURE, AND DIGGING FORKS.



ALLEN EVERITT & SONS, BIRMINGHAM,
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Brass and Copper Locomotive, Marine, Gas and Steam Tubes,
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 WROUGHT COPPER BOAT NAILS; RIVETS, &c.
 Prize Medals, London, 1851; Paris, 1867; Moscow, 1872, for Excellence of Workmanship.

THE BEST ENGLISH-MADE BRUSHES are Manufactured by

G. B. Kent & Co. London.

And Stamped as above.

FACTORY: 11, GREAT MARLBOROUGH STREET, LONDON, W
 G. B. KENT & CO.'S Brushes are celebrated for their durability and strength. *Established 95 Years.*

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In the MONASTIC, GROLIER, MAIOLI, and ILLUMINATED STYLES,
In the most superior manner, by English and Foreign Workmen.

JOSEPH ZAEHNSDORF,
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EXHIBITION MEDAL, LONDON, 1862—



S. R. STEWART & Co., Aberdeen,

Aberdeen Comb Works.

The largest Comb Works in the world, employing 900 hands, cutting up weekly 60,000 Horns, besides a large quantity of India Rubber and Tortoise shell, producing Annually Twelve Million Combs.

Medal awarded at London Exhibition, 1862.

AGENTS.

Vienna Julius Victor Meissl.
 Brussels Danz and Ehrhardt.
 Cologne A. Ehrhardt.
 London House, 18, Grocers' Hall Court,
 Poultry, E.C.

See Group X., No. 382.

Fabrique de Peignes d'Aberdeen

La plus grande et meilleure fabrique de peignes du monde. On y emploie 900 ouvriers, consommation chaque semaine 60,000 cornes, outre grandes quantités de caoutchouc et d'écaille; la production annuelle s'élève à douze millions de peignes.

Médaille d'honneur décernée à l'Exposition de Londres en 1862.

AGENTS.

Vienne M. Julius Victor Meissl.
 Bruxelles M. M. Danz et Ehrhardt.
 Cologne M. A. Ehrhardt.
 Maison et Entrepot a Londres, 18, Grocers
 Hall Court, Poultry, E.C.

Voir Groupe X., No. 382.



STEEL POT



FOUNDRY POT



COVER

STIRRER

STAND



JOHN HYNAM,

PLUMBAGO CRUCIBLE MANUFACTURER,

6, 7, and 8,

PRINCES SQUARE, WILSON STREET, FINSBURY, LONDON.

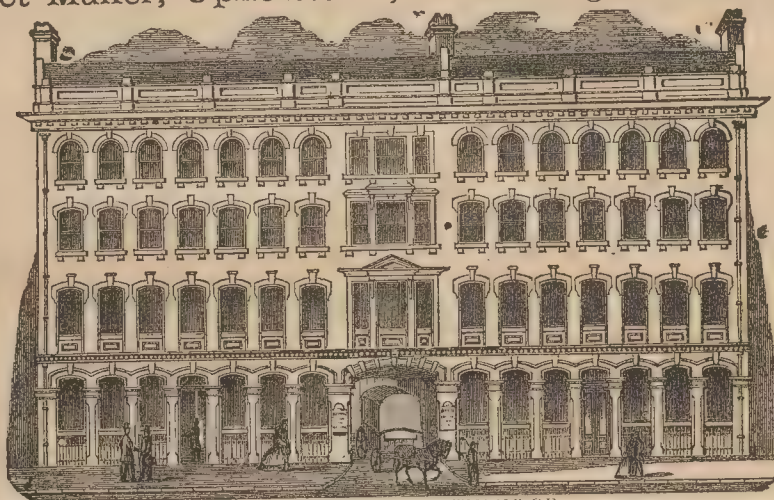
Works:—Tanner's Hill, Deptford, Kent.

These Plumbago Crucibles are used in the Royal Arsenal and Dockyards of Great Britain, and also in those of several Foreign Governments, where they have obtained notability for economy, non-absorption of metal, durability, and freedom from cracking. They are also used extensively by the principal firms of London, Birmingham, and other large towns of England and the Continent. They obtained the First Class Silver Medal (the only one awarded by the Jury), at the Paris Exhibition of 1867, and also a Certificate of Superiority from the Secretary, by whom they were tested, against those of other manufacturers.

W. WALKER,

WHOLESALE AND RETAIL

Cabinet Maker, Upholsterer, & Bedding Manufacturer,

119, Bunhill Row,
LONDON, E.C.Plans, Estimates, and Designs
Prepared and sent to all parts
of the World.AN EXTENSIVE ASSORTMENT OF
MEDIÆVAL & GENERAL HOUSEHOLD FURNITURE
ALWAYS IN STOCK.

Furniture made specially to suit all Climates.

WELSH SLATE COMPANY.**PALMERSTON QUARRY.**

Dieser wohlbekannte Schieferbruch zu Rhiwbryfdir, in Nord Wales, liefert die besten blauen Dach-schiefer und Schieferplatten, welche von dem Verladungs-hafen der Gesellschaft, Port Madoc, in Nord Wales, nach allen Weltgegenden expedirt werden.

Comptoir in London:
19, Spring Gardens, S.W.,
H. F. PHILLIPS,
Sekretair.

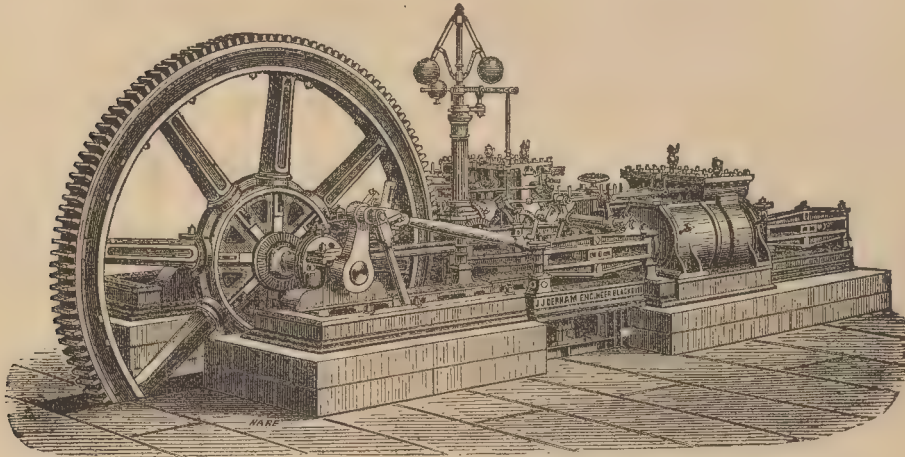
This well-known Quarry at Rhiwbryfdir, North Wales, produces the best Blue Roofing Slates and Slate Slabs, which are sent to all parts of the world, from the Shipping Port of the Company, Port Madoc, North Wales.

Office in London:
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Secretary.

Cette célèbre carrière, située à Rhiwbryfdir, dans le Nord du Pays de Galles, produit les meilleures ardoises pour la toiture et autres usages. Elles sont expédiées de Port Madoc (port de chargement de la Compagnie), Pays de Galles, dans toutes les parties du Monde:

Bureau à Londres:
19, Spring Gardens, S.W.,
H. F. PHILLIPS,
Secrétaire.

JOHN J. DERHAM, *Engineer*, Blackburn, Lancashire, England.



Horizontal Engines may be seen working in the Machinery Hall,
British Section.

STEAM ENGINES of all sizes and every description for driving Cotton, Jute, Flax, Woollen, Corn, and other Mills; Compound Beam and Horizontal Expansion Condensing and Non-condensing Engines; Vertical High-pressure Engines for working Mechanics Shop, with double-acting Pumps attached for fire extinguishing; Semi-portable Engines and Boilers, both horizontal and vertical; Pumping and Winding Engines for Mines, Water Works, Distilleries, &c.; Steam Donkey Pumps for feeding Boilers; Steam and Hand-power Crab Winches, Cranes, and Hoisting Machinery. Valves and Fittings of all descriptions, all of the best construction, finish, and workmanship.

CUT-OFF VALVES and Motion applied to Engines for maintaining a uniform speed of Engine under the most extreme variations of load, dispensing with Throttle Valve, and ensuring the full Boiler Pressure of Steam on Piston at the beginning of each stroke.

IMPROVED ELASTIC METALLIC PISTONS AND AIR-PUMP BUCKETS. Cylinders, Air Pumps, and Crank Eyes rebored in their places by practical and experienced workmen.

GEARING OF EVERY DESCRIPTION; Mills completely geared up; Wrought and Cast-Iron Beams, Pillars, Gutters, and Doors for Fire-proof Buildings, &c., &c., &c.

ENGINES COMPOUNDED for economic and steady working, which principle may be advantageously applied to all existing single Cylinder Beam and Horizontal Engines.

STEAM BOILERS; Cornwall, Multitubular and Vertical, of best approved make and construction, Seamless Furnaces, and fitted with Conical Water Tubes, &c.

JOHN J. DERHAM begs to intimate that he has during the last fifteen years supplied Compound Steam Engines, Boilers, and Gearing to many of the large Cotton, Jute, Flax, and other Mills in Austria and other countries. Testimonials and References given upon application.

Sole Manufacturer of SCHOLL'S Patent Atmospheric Power Hammer for Eastern Europe.

Sole Agent for the sale of Agricultural Implement Machinery, as Manufactured by WILLIAM FOSTER & CO., Engineers, Lincoln, for Austria, Bavaria, and Saxony.

Agent for GREEN'S Patent Fuel Economiser, for Austria and Poland.

No. 443, Group XIII.

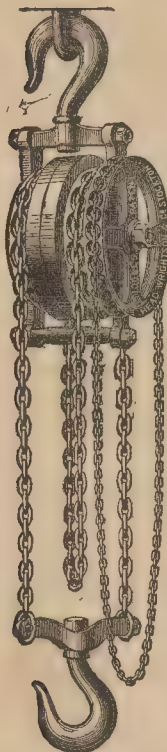
Stand No. 454, Group No. XIII.

Division No. 454, Groupe No. XIII.

HEAD, WRIGHTSON & CO., STOCKTON-ON-TEES, ENGLAND,

Sole Manufacturers of

Moore's Patent Differential
Pulley Blocks, and
Moore & Head's Patent
Hand Hoist.



These PATENT BLOCKS possess many advantages over all others which have been introduced to the public. They will raise the maximum load with a minimum power exerted. They are very simple, and not liable to get out of order. The lifted weight cannot run down of its own accord when suspended. Both chains take an equal share of the load lifted, thus distributing the weight, and causing the Blocks to hang perfectly plumb. The chain is stronger than usual, to prevent any chance of the links stretching.

The PATENT HAND HOIST is specially constructed to enable one man to raise heavy weights with ease and rapidity. It is simple in arrangement, strong in construction, and easy to move about. It can be fixed to any beam or bar, and supplied with chain for any length of lift. It is (when ordered) fitted with an effective brake, by which means the load, when being lowered, is entirely under the control of the man.

Although these Patent Blocks and Hoists have been introduced to the public only a few months, thousands have been sold, and they are now adopted by the largest engineering and other houses in England.

PRICES OF BLOCKS.

PRIX DES POULIES.

Lifting Power. Force éleatoire.	Price of Blocks. Prix.	Price of Chain per foot, including one Hook. Prix de la chaîne par pied avec un crochet.
10 cwt. — 10 quint.	£ s. d. 1 15 0	s. d. 1 0
20 " 20 "	2 10 0	1 6
30 " 30 "	3 0 0	1 8
40 " 40 "	3 10 0	1 8
3 tons. — 3 tonnes	5 0 0	2 3
4 " 4 "	6 5 0	2 3
5 " 5 "	7 10 0	2 6
7½ " 7½ "	12 10 0	5 0

The Hand Chain is included in the price of the Block.
La chaîne de manœuvre est comprise dans le prix de la poulie.

THIS FIRM RECEIVED THE SILVER MEDAL AT THE LIVERPOOL AGRICULTURAL SHOW, 1871; AND AT KING'S LYNN, 1872.

NOTE.—Please state Height of Lift in ordering. Delivery at Stockton-on-Tees.

Agent—M. PHILIP W. NICHOLSON, Fabriksgasse 38, Pest.
et pendant l'Exposition, Division No. 577, Groupe XIIIa.

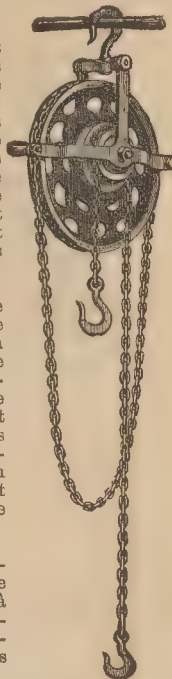
Seuls fabricants des

Poulies différentielles de Moore, brevetées,
et des Monte-Charges à bras de Moore
et Head, brevetés.

Ces poulies différentielles offrent des avantages réels sur toutes celles en usage. On lève avec elles le maximum de charge avec le minimum d'effort. La charge, une fois en suspension, ne peut descendre par elle-même. Les deux chaînes portent une partie égale du poids de la charge, ce qui, produisant une distribution régulière du poids, fait que les poulies sont continuellement d'aplomb. Les chaînes sont plus fortes que d'ordinaire.

Le monte-charge est construit de manière à permettre à un seul homme d'élever facilement et rapidement un poids considérable. Le mécanisme est simple, solide et facile à manœuvrer. Il peut être attaché à une poutre ou traverse quelconque et est muni d'une chaîne pour toutes les hauteurs d'élévation. Cet appareil est muni, si on le désire, d'un frein par lequel le fardeau, pendant la descente, est directement sous le contrôle de l'ouvrier.

Quoique ces poulies et monte-charges ne soient mis en vente que depuis peu de mois, il en a été déjà livrés plusieurs milles, et ces appareils sont aujourd'hui généralement adoptés dans les grandes usines de l'Angleterre.



PRICES OF HOISTS.

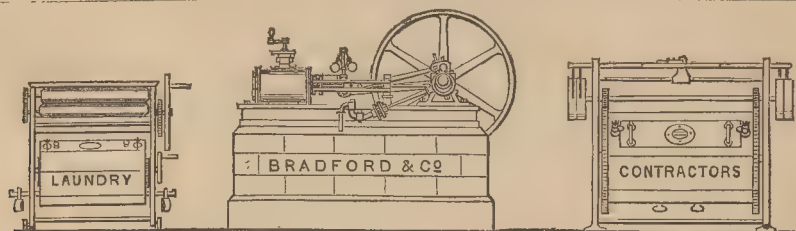
PRIX DES MONTE-CHARGES.

Lifting Power. Force éleatoire.	Price of Hoists. Prix.	Hand Chain. Chaîne de manœuvre.	Lifting Chain. Chaîne pour porter la charge.
	£ s. d.	Per foot. Le pied.	Per foot. Le pied.
No. 1.—To raise 5 cwt. " Pour élever 5 quint. ..	1 15 0	7d.	0s. 7d.
No. 2.—To raise 10 cwt. " Pour élever 10 quint. ..	2 10 0	7d.	1s. 3d.
No. 3.—To raise 15 cwt. " Pour élever 15 quint. ...	3 5 0	11d.	1s. 8d.

If fitted with Brake, EXTRA, No. 1, 15s.; No. 2, 20s.; No. 3, 25s.
Muni d'un frein on paye en plus pour No. 1, 15 sh.; pour No. 2, 20 sh.; pour No. 3, 25 sh.

Médaille d'Argent à l'Exposition d'Agriculture, Liverpool, 1871; et à King's Lynn, 1872.

Pour les commandes, on est prié d'indiquer la hauteur et le poids à élever. Les prix sont applicables aux appareils livrés à l'usine.



THOMAS BRADFORD & Co.,
Washing Machinists and Laundry Engineers,

63, FLEET STREET,
 142, HIGH HOLBORN, } LONDON.

Cathedral Steps, MANCHESTER,
 Windsor Bridge, SALFORD.

Plans and Estimates for Private or Public Laundries, with reference to such in successful operation in all parts of the world, upon application. (No. 472, GROUP XIII.)

MATHER & PLATT,
ENGINEERS, AND MAKERS OF

Every variety of Machinery used in the process of Bleaching, Calico Printing, Dyeing and Finishing, comprising Improved Singe Stove, Patent High Pressure Kiers, Improved Washing Machine, Squeezers, Double-cased Copper-colour Pans, with Gearing to work the Stirrers, Printing Machines, from one to twenty colours, Dye Becks, Starch Mangle, Chloring Machine, Indigo Grinding Mill, Logwood Mill, Madder Mill, with Revolving Pan, Measuring, Lapping, Folding, Doubling, or Rolling Machine, Calender, Drying Machine, with Patent Cylinders in Tinned Iron or Copper, Damping Machine, Belt Stretching Machine, Steam Engines, Horizontal and Vertical Winding Engines for Colliery purposes, Single and Double Acting Pumps, Force Pumps, Deep Lift Pumps, Patent Coal Cutting Machines and Air Compressors for driving them. Patent Water Meter, Improved Steam, Water, and Gas Valves.

PATENTEES OF

Earth Boring Machine for Artesian Well, Mineral, Exploration, &c., Improved Pumps, for pumping out of deep borings, Shearing or Cropping Machine, Clamp Stretching Machine, Gas Apparatus for Heating Calender Bowls, Improved Copper Lined Dye Beck, Warp Sizing Machine or Slasher, with Hot Air Drying Apparatus, Warp Beaming Machine, Piston and Air Pump Bucket, Elastic Metallic Packing, of which upwards of 7,000 are in use, Steam Drying Cylinders.

SALFORD IRON WORKS, MANCHESTER.

Silver Medal,



Paris, 1867.

C. DE BERGUE & CO.,
Engineers and Contractors,
10, STRAND, LONDON,

Manufacturers of

Iron Bridges, Girders, Roofing, Punching and Shearing Machines (Horizontal and Vertical), Plate Mill Shears, Girder Rivetting Machines, Rivet Making Machines, Rivet Dressing Machines, Rail Straightening and Punching Machines, Bending, Curving, and Blocking Machines, Cast Iron Patent Permanent Way, Rail Levellers.

STRANGEWAYS IRON WORKS, MANCHESTER.

WAUNTREODA WORKS, CARDIFF. TAY BRIDGE WORKS, NEWPORT, DUNDEE.

No. 470, British Section, Machinery Hall, where the principal Machines can be seen in motion, and Illustrated Catalogues obtained.

Ingenieure und Bauunternehmer,
Constructeurs

Eiserner Brücken, Brückenträger, Eiserner Dachstühle, Mechanischer Blechscher- und Blechlochmaschinen, horizontal und vertical; Blechscheeren für Walzwerke, Nietmaschinen, und Maschinen zur Fabrikation von Nieten und Bearbeitung deren Köpfe; zum Richten und Lochen der Schienen, sowie zum Biegen und Pressen. Patentirte Schienenhebel. Guss-eiserner patentirter Oberbau.

STRANGEWAYS IRON WORKS, MANCHESTER.

WAUNTREODA WORKS, CARDIFF.

TAY BRIDGE WORKS, NEWPORT, DUNDEE.

No. 470 der Britischen Abtheilung, in der Maschinen-Halle, woselbst man die hauptsächlichsten Maschinen in Bewegung sehen, und illustrierte Kataloge erhalten kann.

Ingénieurs Mécaniciens,
Fabricants de

Ponts en fer, poutres et combles en fer, de machines à poinçonner, de cisailles pour barres et tôles, horizontales et verticales, Cisailles pour laminoir, Machines à river, Machines pour faire des rivets, Machines pour ébarber les têtes des rivets, Machines pour redresser et poinçonner les rails, Machine à cintrer et bloquer; Traverses pour chemins de fer en fonte brevetée, Niveleurs brevetés pour voies ferrées.

STRANGEWAYS IRON WORKS, MANCHESTER.

WAUNTREODA WORKS, CARDIFF.

TAY BRIDGE WORKS, NEWPORT, DUNDEE.

No. 470, Section Britannique, Galerie des Machines ou on peut voir fonctionner les principales machines et recevoir des catalogues illustrés.



GREEN'S PATENT IMPROVED FUEL ECONOMISER,



A NATURAL APPENDAGE TO STEAM BOILERS.

Heats the Feed Water with the Residual or Waste Heat from the boilers to a Temperature considerably above boiling.

Saves 20 to 25 per Cent. of the Fuel.

Contributes greatly to the Durability of the Boilers.

Is not liable to get out of Repair.

All Particulars and References may be obtained of the Patentees and Sole Makers.

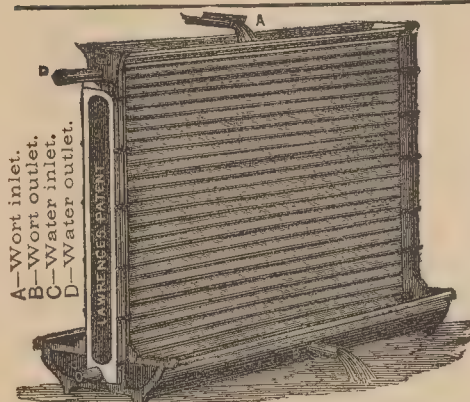
Has been in Operation to every description of boiler for more than 12 years.

Is now Applied to 65,000 Steam Boilers, representing about 2,500,000 horse-power, in this country and on the continent.

Can be applied without Stoppage to new or old Boilers.

Has become an Indispensable in the manufacturing districts.

EDWARD GREEN AND SON, 14, ST. ANN'S SQUARE, MANCHESTER;
OFFICES ALSO AT LONDON, GLASGOW, AND DÜSSELDORF.
WORKS, WAKEFIELD.



A—Wort inlet.
B—Wort outlet.
C—Water inlet.
D—Water outlet.

Wonderful Discovery for Cooling Worts, for Preserving Milk, Purifying Water, Condensing Steam, &c.

LAWRENCE'S Patent Capillary Refrigerator

Which has obtained numerous Prize Medals, may be seen at their Stand, No. 515, Class XIII. and XVIII., and in use at the British Club at the Exhibition.

This Refrigerator is constructed of corrugated copper. Its wonderful efficiency is due to the capillary action of the corrugated surfaces, over which the hot liquid flows in a thin film, while the cooling water (also in a thin film), passes internally in a diametrically opposite direction.

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Brewers' Engineers, Architects, Contractors, and Manufacturers of every description of Brewery and Distillery Plant.

Head Offices: 14, St. Mary Axe, London, E.C.

ALEXR. WILSON & CO., Engineers,
VAUXHALL IRON WORKS, WANDSWORTH ROAD, LONDON, S.W.,

MANUFACTURERS OF
THE "VAUXHALL DONKEY PUMPS,"
AIR PUMPS FOR PRESSURE & VACUUM,
Valves and Fittings of every Description.
PRIZE MEDALS, HAVRE AND NAPLES MARITIME
EXHIBITIONS.

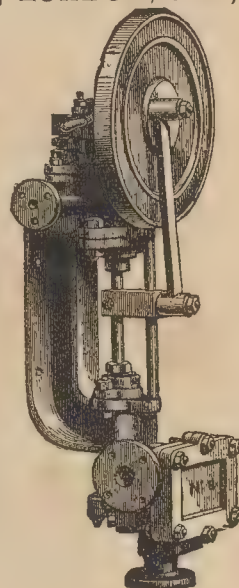
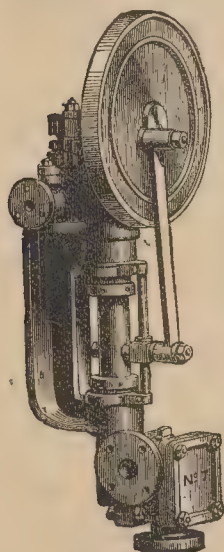
The special attention of Manufacturers is called to the "VAUXHALL DONKEY Pumps," which only require to be better known to make them indispensable requisites in all Factories, for Feeding Boilers, as well as pumping Water or other Liquids. They are quite independent of any other mechanism, and are easily fixed.

Over 3000 of these Pumps are now in use on board Yachts and Steamships, in Breweries, Distilleries, Tanneries, Paper Mills, Cotton, Woollen, and other Spinning Mills, Bleach-works, Dye-works, Chemical Works, Saw Mills, Collieries, Iron-works, Mines, and many other places where steam is used.

REVISED PRICE LIST.

Size.	Diameter.	Strokes.	Gallons thrown per hour.	Horse-power of boiler supplied.	Price £ s. d.
4	1½	2½	120	8	7 10 0
5	1½	3	200	12	10 0 0
6	1½	4	300	20	13 0 0
7	2	4	450	30	15 0 0
*8	2½	4	700	40	17 10 0
9	2½	6	1000	60	20 0 0
*10	2½	6	1500	100	22 10 0
*12	2½	6	2000	120	30 0 0

Those marked (*) are double-action.



SOLE AGENT FOR THE AUSTRIAN EMPIRE:

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*Contractors to the European and Colonial Governments and Corporations.***AWARDED**

The First Prize Medal at the Exposition Universelle, Paris, 1867,

"For Improved Construction, Excellence of Material, and Superior Workmanship;"

TWO GRAND GOLD Medals at the Moscow Universal Exhibition, 1872.

Also the First Prize Medals at Leeds and Lyons in 1858, 1868, & 1872.

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Samples of Specialties may be inspected at Stand No. 542, Group XIII., in the English Machinery Annexe.
(For list of same, see Catalogue of "British Section," Group XIII.)

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THE NEW PATENT TRIPLE-TUBE HYDRONETTE,

*Unrivalled for Ease of Action, Simplicity, and Force, for Watering Plants in Gardens,
Hothouses, Washing Windows, Extinguishing Fires, &c., &c.***ADVANTAGES.**

1. No possible leakage, however much the Machine may be used.
2. Simplicity of readjustments, no skill required.
3. Ready access to all parts of the Machine.
4. Freedom from all adhesion, or setting of the plunger in the stuffing box, after disuse.
5. Protection of the working barrel by the outer casing tube.

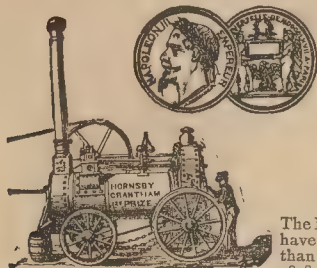
MADE IN FIVE SIZES, FROM 8 fl. 50 TO 20 fl.

**THE SYREILEON, OR HOSE BARROW,***For Coiling and Uncoiling Long Lengths of Garden Hose.*

IN SIZES TO CARRY FROM 60 FEET TO 200 FEET OF HOSE.

May be seen in Action, and Catalogues obtained—Machinery Hall, Stand 529.

R. HORNSBY & SONS.



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The Royal Agricultural Society of England have awarded more First Prizes to these than to any other portable Engines, from 1848 to their withdrawal from competition.



At the last Trials, conducted by the Royal Agricultural Society of England, decisive for five years, against the leading machines in the world,

R. HORNSBY & SONS' MOWERS AND REAPERS

GAINED SEVEN PRIZES AND TWO HIGH COMMENDATIONS, VIZ.:-

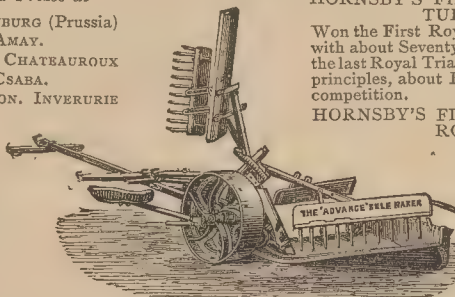
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High Commendation to Self-Raker.
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COMBINED MACHINE, as a Combined Machine
with Manual Delivery.

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HIGH COMMENDATION TO NEW PATENT KNIFE
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R. H. & Sons have been awarded for Mowers and Reapers by the Royal Agricultural Society of England three times as many First Prizes as any other maker, and nearly as much money in prizes as all other leading makers together.



HORNSBY'S FIRST ALL ENGLAND PRIZE TURNIP CUTTERS

Won the First Royal Prize at Bury, in competition with about Seventy Machines, and the First Prize at the last Royal Trial at Oxford, beating all the leading principles, about Eighty Machines being entered for competition.

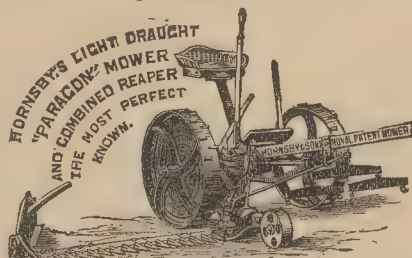
HORNSBY'S FIRST ALL ENGLAND PRIZE ROOT PULPERS

Gained at the Bury Trials of the Royal Agricultural Society of England, the whole of the Prize Money for Hand-power Machines, and the First Prize for the best Power Pulper; also the First Prize for the best Power Pulper, and the First Prize for the best Hand Pulper, at the last Royal Trial at Oxford, after severe tests against all the leading makers.

HORNSBY'S FIRST ALL ENGLAND PRIZE DRILLS
Of every kind, and with all Patent Improvements, have won Thirty-three First Prizes at the Royal Agricultural Society of England at Trials of Makers.

HORNSBY'S FIRST ALL ENGLAND PRIZE DOUBLE FURROW PLOUGHS,

Which gained the Two First Prize Silver Cups, value £10 each, at the Great All England Ploughing Contest at Reepham, Sept. 27 & 28, 1871, beating Messrs. Howard, Ransomes, Sims & Head, Fowler, Cooke, Ball, Mel-lard, etc., and proving themselves the strongest, simplest, most efficient, and lightest in draught of any.



HORNSBY'S FIRST ALL ENGLAND PRIZE IRON PLOUGHS.

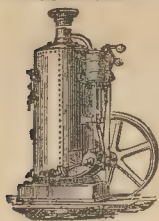
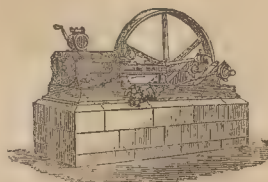
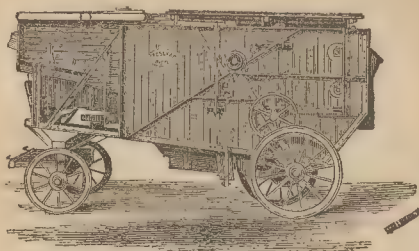
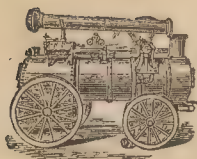
Now known everywhere as the Standard Implement of the day. Gained the First Prize as the best Plough for Light Land, and the First Prize as the best Plough for Heavy Land, at the Great Royal Warwick Trials, and have since maintained their position by gaining Hundreds of Prizes from various Local Societies, including 23 Champion Prizes against Messrs. J. & F. Howard, and 15 in succession against Messrs. Ransomes and Sims

HORNSBY'S NEW ROYAL FIRST PRIZE CORN SCREENS.

Which obtained the Prize of £10, being the whole amount offered for Corn Screens, at the last Bury Trials of the Royal Agricultural Society of England, against Roby's, Ransome's, Penny's, Nalder's, and Coleman's principles; and were since Commended by the Royal Judges at the Oxford Meeting, when no Trials of Screens took place.

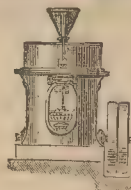
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AGRICULTURAL AND GENERAL ENGINEERS,

MANUFACTURERS OF



Superior Portable Steam Engines, exceedingly strong and durable, and especially constructed to effect great economy in the Consumption of Fuel.

Exclusive Manufacturers of Threshing Machines, with Patent Iron Frames, specially designed to withstand the effects of Dry Climates, whereby greater durability, as well as less wear and tear, is secured.

Vertical High Pressure Steam Engines, with Patent "Field" Boiler combined. Unequalled for excellence of workmanship and economy in Consumption of Fuel. These Engines require no masonry foundations.

Superior Horizontal Fixed Steam Engines, erected on Strong Foundation Plates, suitable for Mines, Mills, and Factories.

Improved Fixed and Portable Corn Grinding Mills, admirably adapted for Grinding all kinds of Grain.

Office during Exhibition.—See No. 567, Group XIIIa., Agricultural Department.

Landwirthschaftliche und Allgemeine Ingenieure, FABRIKANTEN VON

Vortrefflichen, transportablen Dampfmaschinen, ausserordentlich stark und dauerhaft, und hauptsächlich so construirt dass eine grosse Ersparniss an Brenn-Material erreicht wird.

Ausschliessliche Fabrikanten von Dampf-Dreschmaschinen mit Patentirtem Rahmen aus Winkel-Eisen gemacht, welche überhaupt für heisse Klimaten bestimmt sind, indem eine grössere Festigkeit und Dauerhaftigkeit gesichert wird, was bei den Maschinen aus Holz gebaut nicht der Fall ist.

Aufrechtstehende, Hoch-Druck Dampfmaschinen mit Patent „Field“ Kessel verbunden. Was die Vollkommenheit der Arbeit, sowie die Qualität des Materials und Ersparnisse an Brenn-Stoffen anbelangt, bleiben diese Maschinen noch immer unübertroffen. Sie benötigen keine Fundamente von Mauerwerk.

Vorzügliche fest liegende Dampfmaschinen auf starken Fundament platten montirt, sind für Kohlen-Gruben, Mühlen aller Art, und Fabriken sehr geeignet.

Verbesserte feste und transportable Getreide Mühlen, welche für Körner aller Sorten völlig adaptirt sind.

Komptoir während der Ausstellung wird man in Landwirthschaftlicher Abtheilung No. 567, Gruppe XIIIa., finden.

Ingenieurs-Constructeurs de Machines Agricoles et autres,

CONSTRUCTEURS DE

Machines à Vapeur Locomobiles, combinant simplicité et solidité, et construites spécialement en vue de réaliser une grande économie de combustible.

Seuls fabricants de Machines à Battre à ossature en fer, brevetées, pour exportation dans les pays chauds et établies dans d'excellentes conditions de Solidité et de Durée.

Machines Verticales demi-fixes, à Haute Pression, avec chaudières système "Field." Ces machines au point de vue du fini de leur construction et de l'économie du combustible sont sans rivales.

Machines à Vapeur horizontales montées sur plaque de fondation en fonte pour Exploitations de Mines, Minoteries, et autres Industries.

Moulins à blé, perfectionnés, fixes et portatifs, s'adaptant à la mouture de toutes sortes de grains.

Office pendant l'Exposition.—Voir No. 567, Groupe XIIIa., Département de l'Agriculture.

Ingenieros y Fabricantes de Maquinas para Agricultura especialmente los siguientes.

Maquinas de Vapor Portátil Perfeccionados. Estas son muy fuertes y duraderos, facilisimas de manejar, de construccion sencilla, y especialmente contruidos para economizar el combustible.

Maquinas de Trillar, con sus cuadros hecho de fierro forjado (en lugar de madera) especialmente buenos para los paises calientes. Estas maquinas son muy fuertes, duran mucha mas tiempo que los de madera y necesitan menos poder para funcionarlos. Los Sres Robey y Cia son los unicos fabricants destos maquinas.

Maquinas de Vapor Verticales Fijas Con Calderas del patente del Sur "Field," son sin igual para la bondad de su construccion y economia de combustible. Estas maquinas no necesitan fundicion de piedra.

Maquinas de Vapor Horizontales Fijas Colocados entiramente sobre una plancha de fondo de fierro colado. Muy apropiado para Minas, Molinas, de Harino, &c.

Molinos de Granos perfeccionados Portatiles y Fijas admirablemente adaptado para moler todes clases de granos.

Oficina durante el tiempo de la Esposicion Numero 567, Grupo XIIIa., Departamento de la Agricultura.

RUSTON, PROCTOR & CO., LINCOLN,

Maschinen Fabrikanten

Verfertigen als ihre
Spezialität,

TRANSPORTABLE, HALB-TRANS-
PORTABLE, FESTSTEHENDE
HORIZONTALE UND VERTICALE
DAMPFMASCHINEN,
DAMPF-DRESCH-MASCHINEN,
KUKURUZREBLER,
GETREIDE-MÜHLEN,
CIRCULAR-SÄGEN UND DAMPF-
PUMPEN.

Für

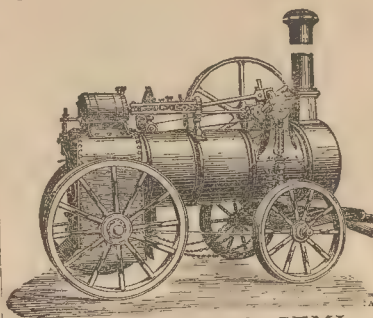
Erprobte Vorzüglichkeit

Wurden ihnen nahezu HUNDERT
GOLD U. SILBER MEDAILLEN,
nebst Geldpreisen zuerkannt an
den verschiedenen Internationalen
Ausstellungen, einschliesslich der-
jenigen von LONDON, PARIS,
ST. PETERSBURG, WIEN,
RIGA, COLN, BRÜSSEL,
HAAG, HAMBURG, LILLE,
NEAPEL, LYON, GOTHEN-
BURG, SANTIAGO, COR-
DOVA, LIMA, MELBOURNE,
CZERNOWITZ, CARLSRUHE,
u. s. w.

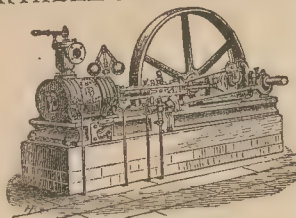
R., P. & Cie. haben bis jetzt
allein ÜBER DREI TAU-
SEND LOCOMOBILEN
geliefert, von denen alle den
SPEZIELLEN BEDÜRFNISSEN der
verschiedenen Länder angepasst
wurden und nun in ALLEN
WELTGEENDEN zur vollstän-
digen Zufriedenheit ihrer Besitzer
arbeiten.

Kaufiebhaber werden darauf
aufmerksam gemacht, dass obige
Locomobilen UNERREICHT
DASTEHEN in Bezug auf
grosse Kessel- und Cylinder-
Dimensionen, STÄRKE der arbeit-
enden Theile, EINFACHHEIT der
Construction, QUALITÄT von
Material und Arbeit, sowie ELE-
GANTE AUSSTATTUNG und
LEISTUNGSFÄHIGKEIT.

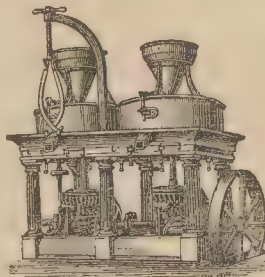
Kataloge und jede wünsch-
bare Auskunft stehen auf Ver-
langen zu Diensten.



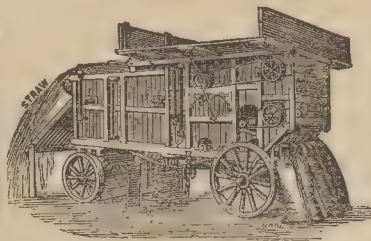
PORTABLE AND SEMI-
PORTABLE STEAM ENGINES.



VERTICAL
FIXED STEAM ENGINES.



FLOUR MILLS.



THRASHING MACHINES &
MAIZE SHELLERS.

Engineers,

Manufacture as their
Speciality,

PORTABLE & SEMI-PORTABLE
STEAM ENGINES,
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VERTICAL ENGINES,
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They have had awarded nearly
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International Exhibitions, includ-
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RIGA, COLOGNE, BRUS-
SELS, THE HAGUE, HAM-
BURG, LILLE, NAPLES,
LYONS, GOTHENBURG,
SANTIAGO, CORDOVA,
LIMA, MELBOURNE, CZER-
NOWITZ, CARLSRUHE, &c.

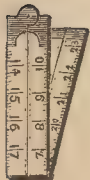
R., P. & Co. have already de-
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all of which, having been SPE-
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requirements of the several
Countries, are now working in
ALL PARTS OF THE WORLD
with satisfaction.

Buyers are invited to notice
that for LARGE ALLOWANCE of
POWER, STRENGTH of wearing
parts, SIMPLICITY of construc-
tion, FIRST QUALITY of material
and workmanship, HIGH FINISH
and EFFICIENCY in actual work-
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UNRIVALED.

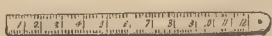
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PETROLEUM PLANT OF ALL KINDS.

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PATENT FUEL & PEAT MACHINERY.

Boilers of all Descriptions.

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"ANGLESEY" ARTIFICIAL LEGS,*Recommended above all others by the most eminent Members of the Medical Faculty.*

These Legs were worn by the late Field Marshal the MARQUIS OF ANGLESEY, K.G., who lost his leg at the Battle of Waterloo, and whose walking and riding excited, equally, the astonishment and admiration of all beholders.



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Mr. P. GRAY has been for upwards of twenty years a Pupil and Partner with his Brother, FREDERICK GRAY, and for the last ten years principal working Partner in the late Firm of F. & P. GRAY, at the above address; he was constructor to the late Colonel Sir THOMAS ST. VINCENT TROUBRIDGE, BART., K.C.B., who lost both legs at the Battle of Inkermann, and yet was enabled, by means of these Artificial Limbs, to ride and walk with ease and facility.

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FITTING AND ARTICULATION—Mr. Gray can with confidence assert that his special system of fitting and articulating an Artificial Limb, provides the wearer with the easiest exercise of volition in motive power that has yet been achieved by mechanical contrivances applied to this purpose.

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 RECENTLY IMPROVED,

Approved by the Academy of Medicine at Paris and other Medical authorities in England and abroad.



These Self-Applicable Physical Curative Appliances, unlike noxious Drugs, are perfectly harmless and of an efficacy vastly superior to all other external remedies.

Owing to the physiological, physical, and chemical effects of the Electricity gently and permanently imparted into the system, they exercise an internal action, promoting the digestion, circulation, and nutrition, thereby assisting Nature in her efforts to restore the normal balance of health and vigour in a debilitated constitution; hence the remarkable cures they daily effect in cases of *Rheumatism, Lumbago, Sciatica, Neuralgia, Gout, Head and Tooth Ache, Indigestion, Liver Complaint, Paralysis, Nervous Deafness, Epilepsy, General and Local Debility, Functional Disorders, &c., &c.*, after all other remedies have failed, and thus popularising Electricity in accordance with the authentic encomiums in the Medical and Scientific Press.

Recent improvements in these appliances by the Inventor render their self-application extremely comfortable and effective, and thus remediate former inconveniences.

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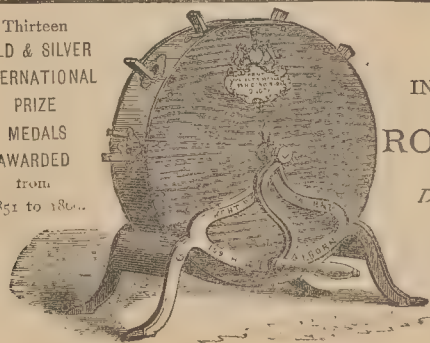
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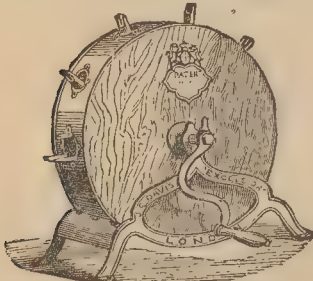
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1776—INTERNATIONAL EXHIBITION—1876



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This Exhibition is to be international and universal—international, inasmuch as all nations will be invited to participate in it; and universal, because it will include a representation of all natural and artificial products, all arts, industries, and manufactures, and all the varied results of human skill, thought, and imagination.

The outlines of a simple yet comprehensive classification have been adopted. There will be ten departments, each subdivided into ten groups, and these again into classes. The details of this classification are now being elaborated, and will be published in due season, together with such rules and regulations as may be found necessary for the proper conduct and management of the Exhibition.

It is intended that ample space shall be assigned to each state, territory, and foreign country, for a just and proper display of its products. It is believed that not less than fifty square acres of floor space, under roof, will be required for this purpose. A site combining the advantages of a sufficient extent of level ground, with picturesque and cultivated surroundings, easy of access by rail, by water, and by ordinary roads, has been assigned for the buildings in the grounds of Fairmount Park, in the City of Philadelphia.

The Exhibition is to be opened on Wednesday, April 19th, 1876, with appropriate ceremonies, in which the President of the United States, the Members of the Cabinet, Governors of States, Senators, &c., together with Representatives of all Foreign Nations, will participate.

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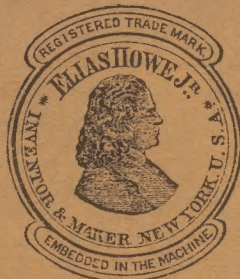
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